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ABSTRACT

This guide is for an articulated two-year high school, two-year college curriculum for florist management developed by two postsecondary and five secondary institutions and representatives of the private sector in Texas. The guide includes the following: (1) a brief description of the occupation of retail florist manager; (2) the basic objective of the curriculum; (3) extensive duty and task lists for retail florist management (including performance objective, standard, materials, enabling objectives, and performance guide for each task); (4) a flowchart showing the recommended secondary and postsecondary course options; (5) recommended student prerequisites including academic courses; (6) basic course outlines for grades 9-14; (7) a list of secondary reference materials keyed to courses; (8) a line drawing of recommended secondary facilities; (9) a list of recommended tools/equipment and estimated costs; (10) a competency profile; (11) an example of the student monitoring and follow-up system; (12) career ladder information; (13) recommended teacher approval criteria; and (14) a sample articulation agreement. (KC)

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2+2 Articulated Curriculum

in Agricultural Technology:

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Retail Florist Management

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"2 + 2" Articulated Agricultural Occupations Project

FIRST YEAR FINAL REPORT

June 1990

FIRST YEAR REPORT

"2 + 2" Articulated Agricultural Occupations Project
Retail Florist Management

Sponsored by:

Texas Education Agency
Division of Vocational Education

and

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Community Colleges and Technical Institutes Division

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I. FIRST YEAR RESULTS AND BENEFITS

Even with the late start of the project the following activities and products have been produced:

1. A commitment of the two postsecondary and five secondary institutions and representatives of the private sector has been made to develop and implement a ``2+2 articulated curriculum"for the agricultural occupations of poultry products management, dairy products management, retail florist management, and garden center management

2. A 2+2 articulated curriculum for the occupation of retail florist management has been developed. The 2+2 articulated curriculum for the retail florist manager includes:

   a. A brief description of the occupation of retail florist manager.
   b. The basic objective of the curriculum
   c. A flow chart showing the recommended secondary and postsecondary course options
   d. Recommended student prerequisites including academic courses
   e. Basic course outlines for grades 9-14
   f. A list of secondary reference materials
   g. A line drawing of recommended secondary facilities
   h. A list of recommended tools/equipment and estimated costs
   i. A competency profile
   j. An example of the student monitoring and follow-up system
   k. Recommended teacher approval criteria
   l. A sample articulation agreement

The 2+2 articulated curriculum for the retail florist manager is presented on the following pages.

It is anticipated that other school districts and two year postsecondary institutions will be able to use the curriculum as a model for linking instructional activities of secondary and postsecondary education for the preparation of technical workers in the agricultural industry.

II. JOB DESCRIPTION: RETAIL FLORIST MANAGER

The retail florist manager directs florist operations either independently or in conjunction with other managers pursuant to the objectives and policies of the employing company or individual.

Utilizes the management process to manage labor in a variety of floral settings. Collects data about employees, identifies specific training needs/problems, implements a plan of action, and evaluates outcomes of the initiated plan. Assists with sales and procedures according to company policy and customer preferences.

Ensures quality of floral products by serving as a positive role model for employees supervised. Accepts responsibility in managing, supervising, and teaching employees the importance of product quality to the customer and to the success of the company.

Supervises the care of floral plants and products and arranging plants and materials for display purposes.

Recommends and prepares floral designs to meet customer requirements for all occasions.

Supervises the ordering and stocking of floral supplies, cut flowers, and potted plants for use in the floral industry.

III. CURRICULUM OBJECTIVE

The curriculum is designed to produce an individual with skills, knowledge, and abilities sufficient to begin work as a retail florist manager in the capacity as either an entrepreneur or a management employee . The individual should perform safely and effectively in the position assigned to him by his employer. Graduates will be able to work independently or in a supervisory capacity.

IV. DUTY AND TASK LISTING FOR RETAIL FLORIST MANAGEMENT

The following is a chart showing the duty and task list for retail florist management. This list was compiled by a panel of horticultural/florist employees. The panel consisted of employees/managers in the horticultural/floral industry.

RETAIL FLORIST

DUTIES	TASKS									
A. CONTROLLING THE PLANT ENVIRONMENT	1. Fertilize plants using liquid fertilizer	2. Water plants	3. Identify plants, flowers, and foliage	4. Identify and control pests	5. Identify and treat plant diseases	6. Determine quality of floral materials	7. Remove diseased plants	8. Control temperature of cold storage unit	9. Condition plant materials	10. Attach care cards to plants
B. STORE, SHIP, AND TAKE INVENTORY	1. Check received merchandise against invoice listings	2. Keep current inventory of products for sale	3. Maintain equipment inventory	4. Store received supplies	5. Return unusable merchandise	6. Wrap plants	7. Store floral and foliage plants in cold storage unit	8. Care for plants, flowers and foliage	9. Identify containers used in floral work	10. Deliver products to customers
B. STORE, SHIP, AND TAKE INVENTORY	11. Load a delivery van	12. Route a delivery								
C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES	1. Service business vehicle	2. Clean work and delivery areas	3. Perform routine maintenance and repairs	4. Clean storage facility	5. Clean and sanitize cold storage facility	6. Arrange cooler display shelves	7. Arrange counter display shelves	8. Arrange facilities for seasonal changes	9. Clean containers for storage	10. Organize storage areas
D. PERFORMING GENERAL OFFICE WORK	1. Process telephone calls	2. File materials	3. Process mail	4. Maintain mailing list	5. Schedule appointments and meetings	6. Order supplies and equipment	7. Process incoming orders	8. Process outgoing deliveries	9. Process wire orders	10. Clean work area
D. PERFORMING GENERAL OFFICE WORK	11. Repair minor malfunctions of office equipment									
E. DESIGNING ARRANGEMENTS	1. Identify flowers and foliage used in the floral industry	2. Identify interior plants used in a floral shop	3. Identify floral tools and products commonly used	4. Make bows	5. Wire flowers using piercing method	6. Wire flowers using hairpin method	7. Wire flowers using hook-wire method	8. Wire flowers using clutch method	9. Wire flowers using straight-wire method	10. Dye both dried and live floral products
E. DESIGNING ARRANGEMENTS	11. Prepare designed ribbon using glue and glitter	12. Design flowers for athletic occasions	13. Design corsages	14. Design boutonnieres	15. Design hair flowers	16. Design dish gardens (European)	17. Dress foliage plants	18. Design funeral baskets	19. Design funeral vases	20. Design funeral wreaths

RETAIL FLORIST

DUTIES	TASKS									
E. DESIGNING ARRANGEMENTS	21. Design set pieces	22. Design funeral sprays	23. Design oval arrangements	24. Design line arrangements	25. Design symmetrical arrangements	26. Design asymmetrical arrangements	27. Design round arrangements	28. Design hogarth-shaped arrangements	29. Design special occasion and novelty arrangements	30. Design bud vases
E. DESIGNING ARRANGEMENTS	31. Make fruit baskets	32. Wrap and box flowers and foliage	33. Design and construct a nosegay bouquet	34. Design and construct a cascade bouquet	35. Design and construct a crescent bouquet	36. Design and construct arm bouquet (presentation)	37. Design and service wedding arrangements	38. Design with balloons	39. Apply basic care to interior plants	40. Apply basic care to floral arrangements
F. PERFORM SALES DUTIES	1. Complete sales slip	2. Compute sales tax	3. Prepare sales invoice	4. Deposit daily cash receipts	5. Suggest care of plants for customers	6. Determine customer needs	7. Fill customer orders for merchandise and plants	8. Display retail products	9. Set up exterior displays	10. Set up manufacturer's display
F. PERFORM SALES DUTIES	11. Set up counter and table top displays	12. Set up displays for salesroom coolers	13. Provide customers with technical assistance	14. Recommend plant maintenance procedures	15. Process telephone orders	16. Rearrange display room				
G. PERFORM SALES-RELATED DUTIES	1. Design and letter show cards	2. Package customer purchase	3. Process cash sales transaction	4. Process charge card sales transaction	5. Gift wrap purchases	6. Label and price products	7. Update prices on merchandise	8. Maintain customer file system and accounts	9. Prepare advertisements	
H. MANAGING THE BUSINESS	1. Maintain business records	2. Prepare financial statements	3. Interpret financial statements	4. Complete the business loan application process	5. Develop credit plan	6. Prepare budget	7. Prepare tax statements	8. Prepare depreciation schedule	9. Calculate net worth	10. Orient new employees
H. MANAGING THE BUSINESS	11. Plan work schedules	12. Determine labor needs	13. Train workers using demonstration-performance method	14. Evaluate employee performance	15. Prepare reports	16. Develop marketing plan	17. Maintain inventory records	18. Select computer software for records and reports	19. Conduct inventory of merchandise	20. Conduct periodic inspection of merchandise
I. APPLYING SAFETY PRACTICES	1. Apply basic emergency first aid techniques	2. Use fire extinguisher	3. Administer cardio-pulmonary resusitation (CPR)							

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 1. Fertilize Plants Using Liquid Fertilizer

****

Performance Objective: Given the materials listed below, fertilize plants using liquid fertilizer.

Standard: The liquid fertilizer must be applied in the designated amounts.

Materials Needed: Floral Plant, Watering Can, Water, Liquid Fertilizer, Desired Ratio of Fertilizer to Water.

Enabling Objectives: Know how to mix fertilizer in proportion to water needed.
Know how to identify plants.
Understand fertilizer ratios as related to specific plants.

Performance Guide:

1. Determine the amount of irrigation water to be applied for unit area of crop
2. Determine the amount of liquid fertilizer required to give the desired ratios
3. Mix water and fertilizer in large container to easily pour into watering can
4. Water plants with desired amount of fertilizer

Note: Avoid contact with foliage and flowers

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 2. Water Plants

****

Performance Objective: Given the materials listed below, water all plants.

Standard: All plants are to receive the required amount of water and none are to be damaged by receiving too much water or by washing out the medium if applied too fast.

Materials Needed: Designated Plants Requiring Water, Source of Water, Sprinkling or Watering Can.

Enabling Objectives: Identify plants needing water.

Performance Guide:

1. Determine whether plants need watering
2. Locate source of water and fill can
3. Apply water according to requirements. Most plants have sufficient water when water first starts to ooze out of the drainage holes of pot
4. Put away cans or other equipment each day following use
5. Avoid late afternoon watering to prevent fungi molds due to excessive moisture
6. Keep cans off floor to prevent dissention of diseases, etc.
7. If water is spilled onto floor or display, wipe up thoroughly
8. To prevent active fungi spores from spreading, apply water directly into pot not onto foliage

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 3. Identify Plants, Flowers, and Foliage

****

Performance Objective: Given the materials listed below, identify foliage and flowering plants and cut flowers used in the floral shop.

Standard: Flowers and foliage will be identified with 90% accuracy from the VEP floral identification slides.

Materials Needed: VEP Slide Sets, Information Sheets.

Enabling Objectives: Know the characteristics of plants foliage and flowers.

Performance Guide:

1. Show slides, pictures, or the real plants and flowers describing it to the students
2. Have students recall the names and plants back to you
3. Mix up the slides, etc. and call on the students to name them
4. Repeat as needed until employee has met or exceeded standards
5. You may need to repeat process every two weeks or once a month to keep the employees recall effective

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 4. Identify and Control Pests

****

Performance Objective: Given the materials listed below, identify common pests that affect plant growth.

Standard: Ninety percent of observable and distinguishable damage pests must be correctly identified.

Materials Needed: Hand Lens, Other Magnifying Glass, Floral Plants, Insecticides, Insecticide Application Equipment.

Enabling Objectives: Must be able to recognize healthy plants versus diseased plants.

Performance Guide:

1. Identify the area in which the floral plants are to be observed
2. Observe the plants, distinguishing between damage caused by insects
3. Record findings
4. Determine appropriate control
5. Apply control method
6. Clean up application equipment

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 5. Identify and Treat Plant Diseases

****

Performance Objective: Given the materials listed below, identify common diseases that affect plants.

Standard: Ninety percent of observable and distinguishable damage by diseases must be correctly identified.

Materials Needed: Hand Lens, Other Magnifying Glass, Floral Plants, Fungicide, Fungicide Application Equipment.

Enabling Objectives: Must be able to identify unhealthy characteristics in plants.

Performance Guide:

1. Identify the area in which the floral plants are to be observed
2. Observe the plants, distinguishing between damage caused by diseases.
3. Record findings
4. Determine appropriate control
5. Apply control method
6. Clean up application equipment

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 6. Determine Quality of Floral Materials

****

Performance Objective: Given the materials listed below, the student will be able to determine the quality of floral materials by observation.

Standard: Upon receiving floral materials, the materials will be inspected to determine damage or quality.

Materials Needed: Flowers/Foliage, Floral Materials, Society of American Florists Quality Standards.

Enabling Objectives: Identify flowers/foliage materials.
Identify diseases and pests.

Performance Guide:

1. Upon receipt of materials, open the shipping carton
2. Count the materials to determine that the order is correct
3. Inspect material for leaf, stem, or petal damage
4. Dispose of damaged leaves on flowers
5. Report any damaged or aged materials to wholesaler
6. Condition as required
7. Return any unusable materials for exchange or credit

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 7. Remove Diseased Plants

****

Performance Objective: Given the materials listed below, dispose of diseased and unhealthy plants.

Standard: All diseased or damaged plants must be disposed of or placed in a location that will not be unsightly to the customer.

Materials Needed: Diseased or Damaged Plants, Protective Substance.

Enabling Objectives: Identify diseases and pests.

Performance Guide:

1. Identify damaged or diseased plants
2. Determine if plant is worth saving
3. If a plant is worth saving, remove damaged foliage and relocate the plant or apply protective substance
4. If it is not worth saving, throw the plant away outside
5. Clean, disinfect and store any tools used
6. Identify cause of damage or disease
7. Correct factors causing damage or disease

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 8. Control Temperature of Cold Storage Unit

****

Performance Objective: Given the materials listed below, control the temperature in the cold storage unit by regulating the thermostat.

Standard: Temperature in the unit when regulated, must not vary + or - 2 degrees F from the desired temperature.

Materials Needed: A Cold Storage Unit Equipped With Thermostatic Controls, A Specific Temperature at Which the Unit is to be Operated.

Enabling Objectives: Must be able to identify proper temperature settings for floral material.
Read a thermometer.

Performance Guide:

1. Operate the unit to make sure it is working
2. Calibrate thermostat with the thermometer
3. Check the thermostat reading with the temperature reading on the thermometer
4. Adjust the thermostat to on
5. Set controls to temperature specified
6. Using maximum-minimum thermometer, operate system and make necessary adjustments to insure desired temperature
7. Place thermometer throughout cooler for accurate testing

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 9. Condition Plant Materials

****

Performance Objective: Given the materials listed below, the student will be able to condition cut plant materials.

Standard: Cut plant material must be recut, placed in 100 degree F solution of floral preservative, and placed at recommended temperature.

Materials Needed: Knife, Cut Plant Material, Non-Metallic Buckets, Floral Preservative, Water Source.

Enabling Objectives: Use a knife properly.
Identify cut plant material.
Read directions for measuring out proper amount of preservative.

Performance Guide:

1. Recut stems at an angle
   NOTE: Remove 1/2 - 1 inch from the base of stem
2. Remove bottom 3 - 4 inches of foliage from stem
3. Place in 100 degree F floral preservative solution
   NOTE: Type and concentration of floral preservatives depend on particular plant species and stage of maturity at harvest
4. Place plant material at recommended temperature, generally 33 degree F to 40 degree F, for particular plant species and stage of maturity at harvest

DUTY: A. CONTROLLING THE PLANT ENVIRONMENT

TASK: 10. Attach Care Cards to Plants

****

Performance Objective: Given the materials listed below, the student will be able to attach care cards to plants.

Standard: The appropriate care cards must be attached to plants, without damaging plant.

Materials Needed: Care Cards, Plants, Care-Card Sticks, Stapler.

Enabling Objectives: Identify plants.
Read care cards.

Performance Guide:

1. Obtain care cards and staple each one to a stick
2. Place the stick end of the care card into the dirt of each potted plant, making sure it does not affect roots
   NOTE: Be sure the care card is appropriate to the plant
3. If plant roots are wrapped in burlap, secure the care card to the plant with string
4. Arrange the care card so that it is visible to the buyer

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 1. Check Received Merchandise Against Invoice Listings

****

Performance Objective: Given the materials listed below, check the received merchandise against invoice listings.

Standard: All shipment discrepancies must be recorded and all damaged items noted.

Materials Needed: Invoice, Pen, Shipment (flowers, supplies, etc.).

Enabling Objectives: Be able to read and count.
Must know quality of flowers and floral products.

Performance Guide:

1. Move the merchandise out of the way of customer and employee traffic
2. Compare the quantity listed on the packing slip with the quantity received
3. Check for damaged items
4. Check to be sure all items ordered were received
5. File the packing slip with the purchase order
6. Prepare shipment for storage or display
7. Call discrepancies to the attention of the manager

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 2. Keep Current Inventory of Products for Sale

****

Performance Objective: Given the materials listed below, keep a current inventory of products for sale.

Standard: Student inventory totals must match instructor totals from an item-by-item check at the end of the inventory.

Materials Needed: Stock, Stock Ledger, Supply Items, Stock Inventory Forms.

Enabling Objectives: Be familiar with floral stock.
Know how to read and count.

Performance Guide:

1. Obtain current ledger inventory and stock inventory forms
2. Identify stock and supply items by name, size, description, and stock code
3. Count stock and supply items
4. Compare physical count to ledger account
5. Determine cause of any discrepancies
6. Update ledger account
7. Reorder stock and supply items if number required for reorder number is reached

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 3. Maintain Equipment Inventory

****

Performance Objective: Given the materials listed below, maintain equipment inventory.

Standard: Student inventory totals must match teacher totals from an item-by-item check at the end of the inventory.

Materials Needed: Equipment, Equipment Inventory Form, Equipment Ledger.

Enabling Objectives: Be familiar with floral equipment.
Know how to read and count.

Performance Guide:

1. Obtain current inventory and equipment inventory forms
2. Identify equipment by name, size, description, and stock code
3. Count equipment
4. Compare physical count to inventory
5. Determine cause of any discrepancies
6. Update ledger account
7. Reorder equipment or parts as necessary

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 4. Store Received Supplies

****

Performance Objective: Given the materials listed below, store received supplies.

Standard: Shipment of supplies must be tallied against shipping order, without error, and all discrepancies and damages noted.

Materials Needed: Labels, Storage Areas, Stock and Supplies, Cart or Dolly, Pricing Materials.

Enabling Objectives: Know about floral products.
Know the basics of quality control.

Performance Guide:

1. Locate an area to set the supplies after unloading the delivery vehicle
2. Remove all supplies from the delivery vehicle
3. Separate business use items from sales items
4. Determine which items go to the sales area and which items go to the storage area
5. Obtain cart or dolly
6. Transport supplies to sales area and/or storage area
7. Open boxes and remove packing material
8. Remove items individually
9. Check for damaged items
10. Check invoice or shipping order against received supplies
11. Note discrepancies in amount of supplies, cost of supplies, or breakage
12. Price and label items for retail sale
13. Arrange items in stacks or rows
14. Return cart or dolly to storage
15. Clean work area and dispose of trash

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 5. Return Unusable Merchandise

****

Performance Objective: Given the materials listed below, return unusable merchandise.

Standard: All unusable merchandise will be identified and returned according to procedures.

Materials Needed: Merchandise (some good and some damaged), Invoices.

Enabling Objectives: Must be knowledgeable of floral merchandise.
Must be able to read and count.

Performance Guide:

1. Examine merchandise
2. Distinguish poor quality or damaged goods
3. Make notice on invoice of unusable merchandise
4. Proceed to return merchandise according to company policy
5. Make note on inventory ledger or sign in

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 6. Wrap Plants

****

Performance Objective: Given the materials listed below, wrap plants.

Standard: The plants must be packaged in accordance with the requirements for safe shipment for the kind of plants being delivered.

Materials Needed: Necessary Boxes, Wrapping Materials, Potted Plants, Cards to Fill Orders.

Enabling Objectives: Be able to make a bow.
Knowledge of plant names and types.

Performance Guide:

1. Review the packaging and shipping procedures for the particular order being filled
2. Make certain plants are in good condition when wrapped
3. Include necessary delivery information
4. Include protective wrapping when necessary
5. Clean up work area after completion of task

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 7. Store Floral and Foliage Plants in Cold Storage Unit

****

Performance Objective: Given the materials listed below, store floral and foliage plants in cold storage unit.

Standard: All flowers, foliage, and plants will be processed for storage using correct method and incurring no damage.

Materials Needed: Storage Facilities, Preservatives, Knives, Buckets, Plants to be Placed in Storage, Foliage and Flowers to be Placed in Storage.

Enabling Objectives: Be familiar with flowers, foliage and plant requirements.
Be familiar with storage facilities.
Know how to use preservatives.

Performance Guide:

1. Identify flowers, plants, and foliage to be stored
2. Prepare flowers, plants, and foliage for storage according to particular needs
3. Place flowers, plants, and foliage in storage

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 8. Care for Plants, Flowers and Foliage

****

Performance Objective: Given the materials listed below, care for plants, flowers and foliage.

Standard: All plants will be watered, pruned and fertilized properly without damage. Proper light requirements will be cited.

Materials Needed: Several Common Florist Plants, Flowers, Foliages, Knife, Shears, Fertilizer, Buckets, Reference Books.

Enabling Objectives: Knnt names, flower names and foliage names.
Know how to use reference books.

Performance Guide:

1. Given a flower, foliage or plant determine the care needed
2. If care isn't known - use a reference to find the care needed
3. Follow through by performing correct watering and fertilizing and pruning techniques and other care procedures
4. Place plant in proper light
5. Place flowers/foliage in cooler

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 9. Identify Containers Used in Floral Work

****

Performance Objective: Given the materials listed below, identify containers used in floral work.

Standard: All containers will be identified by difference and uses and will be reported on.

Materials Needed: 6" and 10" Bud Vase, 1/2 dz. Rose Vase, 1 dz. Rose Vase, Flower Bucket, Novelty Containers, Design Bowls.

Enabling Objectives: Know the different flower and Foliage requirements.
Know the basic vase design needs.

Performance Guide:

1. Read an order
2. Choose correct container
3. Be able to store containers in correct area of storage
4. Be aware of the different materials the basic containers might be made of

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 10. Deliver Products to Customers

****

Performance Objective: Given the materials listed below, deliver products to customers.

Standard: All products must be delivered to specified destination without damage to the plants. The customer's signature must be obtained on the delivery form.

Materials Needed: Truck, Delivery Schedule, Horticultural Products.

Enabling Objectives: Be familiar with products and delivery etiquette.

Performance Guide:

1. Obtain delivery schedule
2. Select horticultural products that will be delivered at the same predetermined stops
3. Group horticultural that will be delivered at the same predetermined stops
4. Load horticultural products onto the truck:
CAUTION: Horticultural products must be handled carefully to prevent damage during all stages of the delivery process
   - a. Place products that will be delivered last at the front of the truck
   - b. Continue the loading sequence until the products that will be delivered first are loaded last
   - c. Secure individual plants and arrangements to prevent damage
5. Study delivery schedule to insure customer's name and address and directions to delivery point are included on schedule
6. Drive truck to the first delivery point
7. Unload the customer's designated products from truck at the first delivery site
8. Note any damaged products or return items
9. Obtain signature of customer
10. Thank the customer for his/her business
11. Repeat Steps 6 - 10 until all products have been delivered

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 11. Load a Delivery Van

****

Performance Objective: Given the materials listed below, load a delivery van.

Standard: All delivery van's will be loaded in the proper order and without error.

Materials Needed: Van or Simulation of One, A Variety of Arrangements and Plants, Delivery Route and Clipboard.

Enabling Objectives: Know how to read a map.
Knowledge of delivery route.

Performance Guide:

1. Sort orders in the order of their delivery
2. Phone customers to verify delivery time
3. Mark the item with the customer's name
4. Write the directions to which they will be delivered
5. Note the orders and their delivery sequence
6. Protect plants to prevent damages
7. Load the items on the truck with the last delivery on truck first, first delivery on the truck last
8. Give the delivery sequences to the driver

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 12. Route a Delivery

****

Performance Objective: Given the materials listed below, route a delivery.

Standard: All deliveries will be routed for the most efficient time span and direct route.

Materials Needed: Delivery Roster, Pen, Map.

Enabling Objectives: Knowledge of delivery area and map reading. Know how to tell time.

Performance Guide:

1. Study the delivery list
2. Make note of special deliveries
3. Route deliveries using the most direct route - consult map
4. Keep in mind peak traffic hours and traffic directions
5. Be familiar with hospital delivery procedures

DUTY: B. STORE, SHIP, AND TAKE INVENTORY

TASK: 13. Apply Delivery Etiquette

****

Performance Objective: Given the materials listed below, apply delivery etiquette.

Standard: All deliverers will be able to great and meet customers correctly and politely.

Materials Needed: Delivery Clipboard, Delivery Object, Delivery Tags for Customers not at Home.

Enabling Objectives: Knowledge of delivery routes and products.

Performance Guide:

1. Take delivery to door and knock
2. Greet person politely, identify self and business by name. Smile
3. Hand delivery to person - be sure it is secure with person
4. Give any information necessary about delivery
5. Have person receiving sign delivery clipboard
6. Thank person and say good-bye politely
7. Be aware of alternate options for delivery if person isn't home

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 1. Service Business Vehicle

****

Performance Objective: Given the materials listed below, service business vehicle.

Standard: All vehicles will have minor regular service: check gas, oil, tires, and change flats.

Materials Needed: Vehicle With all Tire Equipment, Tire Gauge, Rag.

Enabling Objectives: Knowledge of how to put gas in vehicle, check oil, check tires, change flats.

Performance Guide:

1. Check gas gauge on vehicle. Fill up tank
2. Check oil dip stick. Replace oil if necessary
3. Check tires for air pressure using tire gauge. Correct any deficiencies
4. Change a tire

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 2. Clean Work and Delivery Areas

****

Performance Objective: Given the materials listed below, clean work and delivery areas.

Standard: All tools and containers must be put in storage area and all trash disposed. The work area must be clean. Potting benches must be disinfected.

Materials Needed: Disinfectant, Dirty Work Area, Cleaning Supplies.

Enabling Objectives: Knowledge of cleaning supplies and their uses. Knowledge of storage area.

Performance Guide:

1. Select cleaning utensils and supplies
2. Return all hand tools to storage area
3. Move dirty pots, flats, and containers from work area
4. Pick up loose paper, boxes and packing material and deposit in trash containers
5. Sweep work benches and floor
6. Remove any oil or grease which has accumulated on floor or benches
7. Dispose of all trash and debris deposited in the trash containers
8. Clean and disinfect storage and work areas
9. Mop or hose down the floor
10. Return cleaning utensils and supplies to their area

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 3. Perform Routine Maintenance and Repairs

****

Performance Objective: Given the materials listed below, perform routine maintenance and repairs.

Standard: All vehicles and equipment will have routine maintenance performed according to instruction manual.

Materials Needed: Equipment Manuals, Cleaning Equipment.

Enabling Objectives: Know how to read.
Knowledge of equipment.

Performance Guide:

1. Determine if equipment needs routine maintenance
2. Check appropriate manual for procedures
3. Perform required procedures
4. Clean up area and replace the manual

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 4. Clean Storage Facility

****

Performance Objective: Given the materials listed below, clean storage facility.

Standard: The storage facility will be clean to instructors satisfaction.

Materials Needed: Cleaning Supplies, Facility Needing Cleaning.

Enabling Objectives: Knowledge of cleaning supplies.
Be familiar with storage facility.

Performance Guide:

1. Assemble materials needed
2. Discard trash
3. Straighten shelves and closets
4. Clean glass surfaces
5. Sweep
6. Make note of any product that is running low

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 5. Clean and Sanitize Cold Storage Facility

****

Performance Objective: Given the materials listed below, clean and sanitize cold storage facility.

Standard: The cold storage facility will be cleaned and sanitized to instructor's satisfaction.

Materials Needed: Cleaning Materials, Knife, Cold Storage Facility.

Enabling Objectives: Knowledge of cleaning supplies.
Be familiar with cold storage facility.

Performance Guide:

1. Assemble materials needed
2. Discard old flowers and trash
3. Empty buckets and clean with bleach solution
4. Refill buckets, recut flowers and put back in buckets
5. Clean out inside of cooler, wipe down with disinfectant
6. Clean glass surfaces
7. Replace buckets
8. Check thermometer
9. Empty water reservoir

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 6. Arrange Cooler Display Shelves

****

Performance Objective: Given the materials listed below, arrange cooler display shelves.

Standard: Displays must consist of featured merchandise and be constructed in an appealing, attractive way so as to draw the attention of customers.

Materials Needed: A Salesroom Cooler, Flower Arrangements, Cut Flowers, Props, and Accessories.

Enabling Objectives: Knowledge of flowers and equipment.

Performance Guide:

1. Write a plan for the display including:
   a. The theme or purpose
   b. A list of the merchandise to be used
   c. A list of accessories to be used
   d. A list of show/price cards to be used
   e. A list of the tools and supplies to be used
2. Draw a sketch of how the display will appear when finished
3. Hand letter the show/price cards (optional, may be printed)
4. Assemble tools, merchandise, props and accessories at the work area:
   a. Choose fresh arrangements that will appeal to customers such ....as:
      (1) Bud Vases
      (2) Table arrangements
      (3) Center pieces
      (4) Novelty arrangements
   b. Choose fresh cut flowers that will appeal to customers such ....as:
      (1) Roses
      (2) Carnations
5. Clean cooler including inside and outside surfaces

****

6. Set up the display incorporating the following principles of display:
   a. Balance
   b. Harmony
   c. Color
   d. Scale and Proportion
   e. Shape
   f. Focal area
   g. Repetition
   h. Unity
7. Avoid crowding either the arrangements or cut flowers
8. Place each arrangement and each cut flower vase in a manner so that each can be seen as a individual item
   a. Design the props to safely support the displayed merchandise
   b. Place all merchandise in the cooler so that no safety hazards exist
9. Set up a display using only fresh and clean props, merchandise and accessories
10. Set up a display that includes show and price cards that are informative, free of errors, dirt and smudges

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 7. Arrange Counter Display Shelves

****

Performance Objective: Given the materials listed below, arrange counter display shelves.

Standard: Displays must consist of featured merchandise and be constructed in an appealing, attractive way so as to draw the attention of customers.

Materials Needed: Merchandise, Display Space, Display Tools and Equipment, Props, Accessories, and Price Cards.

Enabling Objectives: Knowledge of flowers and equipment.
Knowledge of merchandise.

Performance Guide:

1. Write a plan for the display including:
    a. The theme or purpose
    b. A list of the merchandise to be used
    c. A list of accessories to be used
    d. A list of show/price cards to be used
    e. A list of the tools and supplies to be used
2. Draw a sketch of how the display will appear when finished
3. Hand letter the show/price cards (optional, may be printed)
4. Assemble tools, merchandise, props and accessories at the work area
5. Set up the display incorporating the following principles of display:
    a. Balance
    b. Harmony
    c. Color and texture
    d. Scale and Proportion
    e. Shape
    f. Focal area
    g. Repetition
    h. Unity

****

6. Incorporate the following safety standards in the display:
   a. Design the props to safely support all displayed merchandise
   b. Place all merchandise so that no hazards exist
   c. Place all electrical and lighting fixtures so that all safety requirements are met
   d. Use only fire-resistant accessory materials in the display
   e. Avoid placing display in an area that will block exits or entrances
   f. Avoid having any sharp edges on corners in the display
7. Set up the display which:
   a. Avoids the use of lighting or other display techniques that will present a false impression of the merchandise
   b. Has only fresh and clean merchandise, props and accessories
   c. Has a definite theme or purpose
   d. Includes show and price card that are informative, free of errors, dirt, smudges and that follow the purpose or theme of the display

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 8. Arrange Facilities for Seasonal Changes

****

Performance Objective: Given the materials listed below, arrange facilities for seasonal changes.

Standard: Arranged facilities for seasonal changes must be rated acceptable by teacher.

Materials Needed: Seasonal Items, Display Area, Shelving and Wallspace, Adhesive Materials.

Enabling Objectives: Knowledge of merchandise.
Knowledge of major seasons.
Have ability to construct display shelves.

Performance Guide:

1. Group non-seasonal items together at a stationary location
2. Select a large, flexible, and accessible location for seasonal items
3. When the fall - winter season approaches move out spring - summer items by storage or special sale
4. When the spring - summer season approaches move out fall - winter items by storage or special sale
5. Make floor space for equipment
6. Add or eliminate display shelves
7. Change sales banners, flyers, aisle markers
8. Place equipment in groups
9. Place plants and other products in groups
10. Provide special lighting if necessary

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 9. Clean Containers for Storage

****

Performance Objective: Given the materials listed below, clean containers for storage.

Standard: All containers will be clean and returned to cold storage.

Materials Needed: Dirty Containers, Preservative, Flowers, Knife, Cleaning Supplies.

Enabling Objectives: Knowledge of equipment, flowers and materials.

Performance Guide:

1. Assemble materials
2. Remove dirty buckets from cooler
3. Discard old flowers
4. Scrub buckets with disinfectant solution
5. Put in water and preservative
6. Recut old flowers, process new flower
7. Place flowers in bucket immediately
8. Return clean buckets to cooler

DUTY: C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

TASK: 10. Organize Storage Areas

****

Performance Objective: Given the materials listed below, organize storage areas.

Standard: All storage areas will be organized according to instructors specifications.

Materials Needed: Cleaning Materials, Storage Area, New Stock Materials.

Enabling Objectives: Knowledge of cleaning supplies and store materials.

Performance Guide:

1. Clean shelves that are dusty
2. Paint, cover, or replace old and rusted shelves
3. Line up products with their designated label
4. Restock any items in short supply
5. Make sure all items are priced correctly
6. Face product labels to the front
7. Replace old signs, posters, and informational brochures

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 1. Process Telephone Calls

****

Performance Objective: Given the materials listed below, process telephone calls.

Standard: Telephone calls will be processed efficiently with no errors.

Materials Needed: Telephone, Message Pad, Pencil.

Enabling Objectives: Knowledge of telephone etiquette and operation of phone being used.
Be able to write legibly.

Performance Guide:

For Phone Orders:

1. Answer the phone with the business greeting
2. Check with the customer on the product they have in mind
3. Establish time of delivery or pick-up
4. Check on means of payment
5. Make note of the customer's name, credit number, address, directions and phone number on the order
6. Make note of the product description, quantity and price range
7. Repeat the order to the customer for verification
8. Inform customer of delivery charge (if any)
9. Allow the customer to hang up first
10. Initial the order
11. Date the order
12. File the order with orders to be filled the same day

For Transferring Calls:

1. Answer the phone with the business greeting
2. Listen to what the customer wants
3. Explain to the caller why the call is being transferred and to whom
4. Offer to have the party return the call if caller does not want to be transferred
5. Use correct procedures for transferring calls

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 1. Process Telephone Calls (Continued)

****

Answering Calls for Others:

1. Explain co-worker's absence from office without giving out unnecessary information
2. Offer assistance to caller
3. Give approximate time co-worker will return

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 2. File Materials

****

Performance Objective: Given the materials listed below, file materials.

Standard: Materials will be filed in the correct file order with needed information on material.

Materials Needed: Filing System, Records, Reports, File Folders.

Enabling Objectives: Know how to alphabetize and read label and titles to materials.

Performance Guide:

1. Obtain forms required to be filed
2. Find appropriate folder in which to place forms according to:
   a. alphabetical order
   b. invoice numbers
   c. customer names
3. Place form or item in folder neatly without wrinkling papers and in the correct order
4. Replace folder in the correct order in file cabinet

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 3. Process Mail

****

Performance Objective: Given the materials listed below, process mail.

Standard: Incoming mail will be processed and routed to the appropriate person or department. Outgoing mail will be addressed, weighed and stamped with proper postage.

Materials Needed: Mail, Letter Opener, Stamps, Envelopes, Moistener.

Enabling Objectives: Knowledge of postal regulations and options.
Know how to read.
Know about zip coding and updating mailing lists.

Performance Guide:

Incoming Mail

1. Before opening the mail, check for mailing notations that indicate that an item needs special attention
2. Mailgrams, certified and registered mail and items sent special delivery should be delivered to the address immediately
3. Envelopes marked "Personal" or "Confidential" should never be opened by anyone other than the addressee
4. Open envelopes. As you remove the contents, check for enclosures, the signature, the return address and date
5. Incoming mail should be dated as it is received as a reference for the addressee
6. When 2 or more people in the company need to see a particular item, attach a routing slip or stamp
7. A mail register maybe used to record incoming mail that is sent under special services or in a separate package
8. If sorting the incoming mail for supervisor or department, arrange the items in order of priority, with the most important items on top

****

Outgoing Mail

1. To prepare correspondence for the mail, you must have it signed, attach enclosures, fold them, and insert them in the envelope
2. The address on the envelope or mailing label should be typed in all capital letters without any punctuation marks. The last line of the address should contain the city, 2-letter state abbreviation, and the zip code
3. The class of mail, desired special services, and special handling notations should be indicated clearly on outgoing mail
4. A postage meter is more efficient than stamps when applying postage to a large number of pieces of outgoing mail
5. Mailing list should be kept up to date
6. When addresses are typed individually for mailing, typing addresses on strips of gummed labels may be faster than chain-feeding envelopes
7. Special postal rates are available to companies that use 9-digit zip code
8. Mail should be deposited at post office or in a mail deposit box periodically throughout the day

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 4. Maintain Mailing List

****

Performance Objective: Given the materials listed below, maintain mailing list.

Standard: Combine a list of each customers name, address, and phone number.

Materials Needed: Customer Addresses, Pen, File Cards, Mailing Labels.

Enabling Objectives: Write legibly.
Put names in alphabetical order.

Performance Guide:

1. Take customer name, address and phone number
2. Print onto card for reference listings
3. Add any pertinent information concerning customer needs
4. Alphabetize list according to last names
5. Place list in file system

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 5. Schedule Appointments And Meetings

****

Performance Objective: Given the materials listed below, schedule appointments and meetings.

Standard: Schedule appointments and meetings without conflicts and in business-like manner.

Materials Needed: Appointment Book, Pen or Pencil, Calendar.

Enabling Objectives: Proper etiquette.
Read a calendar.

Performance Guide:

1. You should learn supervisor's preference for scheduling appointments, including the people that will be seen and the preferred meeting times
2. Before scheduling an appointment, check the calendar to see that the day and time are available
3. When scheduling an appointment with your supervisor, record the date, time and location; the person's name and telephone number, person's business association or purpose of meeting; and the time required
4. Schedule appointments so that the time between appointments is not wasted
5. If both you and your supervisor schedule and record appointments, coordinate the calendars so that two appointments are not scheduled for the same time
6. When scheduling appointments for your supervisor with another person:
    a. Check the appointment calendars for available times
    b. Telephone or write to request an appointment
    c. Record the appointment on the calendar
7. When the appointment on the calendar is kept on your desk, provide your supervisor with a copy of the day's schedule each morning
8. Notify people of cancellations as soon as you find out about them in order to prevent unnecessary trips and wasted time

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 6. Order Supplies And Equipment

****

Performance Objective: Given the materials listed below, orders supplies and equipment.

Standard: Order replacements items for plants, equipment and supplies.

Materials Needed: Inventory Lists, Supply Catalog, Order Forms, Pen/Pencil, Calculator.

Enabling Objectives: Knowledge of inventory lists.
Identify plants, equipment and materials.
Ability to read and operate calculator.

Performance Guide:

1. Determine item quantities required
2. Analyze current inventory for item shortages
3. List items to be purchased
    a. Brand name
    b. Item quantities
    c. Potential suppliers
4. Compare item quality and costs with different suppliers
5. Compute purchase costs for items
6. Review purchase costs with superior
7. Order items from suppliers

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DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 7. Process Incoming Orders

****

Performance Objective: Given the materials listed below, process incoming orders.

Standard: Use a purchase request from a customer, write up the order without error, listing all descriptive information needed for and employee to fill the order.

Materials Needed: Order Form, Customer, Pen/Pencil.

Enabling Objectives: Know customer etiquette.
Be able to write legibly.

Performance Guide:

1. Date the order blank
2. initial the order
3. Write down the customer's name with correct spelling
4. Write down the customer's address with correct spelling
5. Write down the customer's home phone number
6. Note the customer's place of employment and phone number
7. Write down the product name and quantity ordered
8. Check on the time desired and the availability of the merchandise
9. Determine the cost of the order, and any delivery charge
10. Take the customer's payment
11. Make note of the mode of payment
12. Give the customer their receipt with remaining balance listed

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 8. Process Outgoing Deliveries

****

Performance Objective: Given the materials listed below, process outgoing deliveries.

Standard: Arrange for purchased items to be transported without damage and with proper sales receipts.

Materials Needed: Orders To Deliver, Map Or Directions, Sales Receipt Vehicle.

Enabling Objectives:
Knowledge of area and map reading skills.
List of delivery schedules.
Knowledge of plant and flower arrangement handling.

Performance Guide:

1. Review list of items purchased
2. Assign task to worker
3. Instruct worker for inspecting and transporting purchased items
    a. Vehicle required for transportation
    b. Route to and from shop
    c. Pick-up point at shop
    d. Examining and separating unhealthy plants
    e. Sales receipts to be obtained
    f. Procedure for loading and unloading plants
4. Inspect transported plants for dehydration, leaf, root or limb damage

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 9. Process Wire Orders

****

Performance Objective: Given the materials listed below, process wire orders.

Standard: Florist must complete the order to and out of town customer in a manner that will satisfy the customer.

Materials Needed: Customer Order Form For Out of Town, State or Country, Order Blank, Phone, Wire Service Book, Sample Book Of Flowers Arrangements.

Enabling Objectives: Ability to write order.
Knowledge of telephone etiquette.
Pricing arrangement list.
Ability to identify flowers or plants.

Performance Guide:

1. Show customer sample book with flower arrangements illustrated
2. Ask the customer what occasion the flowers are for
3. Determine appropriate selection for customer to consider: funeral, anniversary, hospital, weddings, corsages, etc.
4. Discuss cost of arrangement with the customer
5. Take customer's order
   a. Write down customer's name
   b. Write down name and address of recipient
   NOTE: Spelling is very important
6. Write down the number of the arrangement that the customer has ordered or everything the customer wants in his/her arrangement or everything that you tell the customer will be in the arrangement
7. Write down the price that was decided upon-- a service charge must be added to this total (delivery and phone call); and state tax should also be included
8. Write down the message that the customer wants on the card, accuracy is important
9. If cash is paid, collect and mark the order "PAID"

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 9. Process Wire Orders (Continued)

****

10. If a charge is made,
    a. Make sure the account number on the receipt is correct
    b. Check the expiration date--if it is past, card is invalid
    c. Credit check the account number
    d. Have the customer sign the receipt
11. Hand the customer a copy of the receipt
12. Tell the customer the order will be processed
13. Take the order to the wire service book
14. Look up the state and then the town the arrangement will be sent to by alphabetical order
15. Under the town find a florist that can do your order for the price you have. The florists have symbols for fruit, plants, arrangements, dried and silk arrangements, and balloons. After the symbol is the price at which the florists will start their work
16. Call the florist who is to receive the order
17. Tell the florist employee who answers the call:
    a. The name of the wire service being used
    b. The name, state and town of the calling florist
    c. The wire service code number.
    d. A description of the customer's order (or second choice)
    e. The name and address of the recipient (spell uncommon names)
    f. The message of the enclosure card
    g. The delivery date
18. Close the call with your name

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 10. Clean Work Area

****

Performance Objective: Given the materials listed below, clean work area.

Standard: All tools and containers must be put in storage areas and all trash disposed of.

Materials Needed: Cluttered Or Dirty Work Area, Cleaning Supplies.

Enabling Objectives: None.

Performance Guide:

1. Select cleaning utensils and supplies
2. Return all forms and reports to storage areas
3. Pick up loose paper, boxes and packing materials, dispose of in trash containers
4. Sweep floor
5. Return cleaning utensils and supplies to their storage area

/

DUTY: D. PERFORMING GENERAL OFFICE WORK

TASK: 11. Repair Minor Malfunctions Of Office Equipment

****

Performance Objective: Given the materials listed below, repair minor malfunctions of office equipment.

Standard: All tapes, ribbons or paper will be changed so that equipment will operate correctly.

Materials Needed: Typewriter Ribbon, Paper, Cash Register Tape, Instruction Manual.

Enabling Objectives: Read and follow refilling instructions on all machines.
Knowledge of safety rules regarding electrical equipment.

Performance Guide:

1. With the correct manual read how to change out material on given equipment
2. Follow the directions given in the manual
3. Check to see that equipment is functioning properly with the diagram in the manual
4. If it still does not work properly; check the trouble shooter guide in the manual, or call the repair service

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 1. Identify Flowers and Foliage Used in the Floral Industry

****

Performance Objective: Given the materials listed below, identify flowers and foliage used in the floral industry.

Standard: Slides must be identified with 95% accuracy - name and design category.

Materials Needed: VEP Slide Sets 1-4 (100 slides), Worksheets that Accompany Sets.

Enabling Objectives: None.

Performance Guide:

1. Introduce slide sets one at a time (25)
2. Have students be able to recite name and design category
3. Reinforce by reviewing sets throughout the semester

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 2. Identify Interior Plants Used in a Floral Shop

****

Performance Objective: Given the materials listed below, identify interior plants used in a floral shop.

Standard: Plants must be identified with 95% accuracy and design use stated.

Materials Needed: Filmstrip Sets I, II, and III from IMS or VEP Slides.

Enabling Objectives: None.

Performance Guide:

1. Introduce filmstrip sets or slide sets one at a time
2. Have students be able to recite name and design use
3. Reinforce by reviewing sets throughout the semester

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 3. Identify Floral Tools and Products Commonly Used

****

Performance Objective: Given the materials listed below, identify floral tools and products commonly used.

Standard: Tools and products must be identified with 95% accuracy and their usage stated.

Materials Needed: All tools and products from the supply list.

Enabling Objectives: None.

Performance Guide:

1. Through repetition introduce and review tools and products used in the floral industry
2. State their usage
3. Review until 95% accuracy is achieved

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 4. Make Bows

****

Performance Objective: Given the materials listed below, make bows.

Standard: The bow must be securely tied with ribbon ends trimmed.

Materials Needed: Ribbon, Scissors, Wire and Wire Cutters.

Enabling Objectives: Know ribbon sizes and tools.

Performance Guide:

1. Hang the ribbon over left thumb with long side in front (reverse this procedure if left handed)
2. Take the long side of the ribbon with your right hand and loop it under and around the left thumb
3. Squeeze the ribbon between the left thumb and forefinger
4. Grasp the ribbon with the right hand about three inches from the crushed part and make a loop
5. Bring the ribbon to the spot between the left thumb and forefinger and crush it between the two
6. Go down the ribbon three inches and loop it up under
7. Crush again between the left thumb and forefinger
8. Make three or four loops twisting the ribbon in each direction until the bow reaches proper size
9. Make each set of loops slightly larger than the previous set
10. Use a thin piece of wire and wrap it around all the loops
11. Insert this under the first small loop in place of your left thumb. Do this by pulling it down on both sides
12. Twist it at the back
13. Trim the ends of the ribbon
14. Repeat with different ribbon sizes

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 5. Wire Flowers Using Piercing Method

****

Performance Objective: Given the materials listed below, make wire flowers using piercing method.

Standard: Each flower must be undamaged. Wire must be as straight as possible.

Materials Needed: Wire Cutters, Floral Wire, Floral Tape, Flowers to Demonstrate With.

Enabling Objectives: Knowledge of flowers and tools.
Be familiar with the use of floral tape.

Performance Guide:

1. Assemble the tools and materials at the work area:
    a. Wire cutters
    b. Floral wire, 26- or 28-gauge
    c. Floral Tape
2. Assemble flowers at the work area (either funnel-shaped or button-centered) such as: daisies and pom pons
3. Fold the wire in half forming an arrow hairpin
4. Hold the ends of the hairpin-shaped wire close together and insert down through the center of the flower along stem
5. Pull the ends of the wire down until the loop of the hairpin is almost invisible. Pull the wire gently to avoid pulling it through the flower head
6. Wrap stem and wire with floral tape
7. Trim off ends of wire according to usage of flowers

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 6. Wire Flowers Using Hairpin Method

****

Performance Objective: Given the materials listed below, wire flowers using hairpin method.

Standard: Flowers must be undamaged, wire should be straight.

Materials Needed: Wire Cutters, Floral Wire, Floral Tape, Flowers.

Enabling Objectives: Knowledge of flowers and tools.
Be familiar with the use of floral tape.

Performance Guide:

1. Assemble the tools and materials at the work area:
    a. Wire cutters
    b. Floral wire, 26-28 gauge
    c. Floral tape
2. Assemble flowers at the work area (either fennel-shaped or button-centered) such as: daisies, and pompons
3. Fold the wire in half forming and arrow hairpin
4. Hold the ends of the hairpin-shaped wire close together and insert down through the center of the flower along the stem keeping the wire as straight as possible
5. Pull the ends of the wire down until the loop of the hairpin is almost invisible. Pull the wire gently to avoid pulling it through the flower head
6. Wrap stem and wire with floral tape
7. Trim off ends of wire according to usage of flowers

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 7. Wire Flowers Using Hook-Wire Method

****

Performance Objective: Given the materials listed below, wire flowers using hook-wire method.

Standard: Flowers must be undamaged, and hook end should not penetrate flower "button". Keep wire straight as possible.

Materials Needed: Flowers, Floral Wire, Floral Tape, Scissors, Designer's Tools and Materials.

Enabling Objectives: Knowledge of flowers and tools.

Performance Guide:

1. Assemble the tools and materials at the work area:
   a. Wire cutters
   b. Floral wire, 20-22 gauge
   c. Floral tape
2. Assemble flowers at the work area:
   a. Daisies
   b. Chrysanthemums
   c. Other hard "button-centered" flowers
3. Cut off the stem leaving approximately one-half to one inch
4. Insert the wire up through the center of the stem and flower head keeping the wire as straight as possible
5. Bend the top end of the wire into a small hook
6. Pull the wire down into the flower head until it is almost invisible. Avoid pulling the hooked end through the flower "button"
7. Wrap the stem with floral tape if it is to be used in a corsage

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 8. Wire Flowers Using Clutch Method

****

Performance Objective: Given the materials listed below, wire flowers using clutch method.

Standard: Each flower must be undamaged. Wire must be neat and straight as possible.

Materials Needed: Flowers, Floral Wire, Floral Tape, Scissors, Designer's Tools and Materials.

Enabling Objectives: Knowledge of flowers and tools.
Be familiar with use of floral tape.
Be able to "feather".

Performance Guide:

1. Assemble tools and materials at the work area
   a. Wire cutters
   b. Floral Wire 20-22 gauge
   c. Floral Tape
2. Assemble flowers (feathered carnations) at the work area
3. Holding flower with calyx wrapped around petals, lay wire along flower with the flower lying in the middle of the wire
4. Still holding flower, assemble in one hand, use the other hand to wrap one half of the wire around the flower 2-3 times snugly
5. Tape wire completely beginning at calyx and covering wire completely
6. Trim wires according to future usage

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 9. Wire Flowers Using Straight-Wire Method

****

Performance Objective: Given the materials listed below, wire flowers using straight-wire method.

Standard: Each flower must be undamaged. Wire must be as straight as possible.

Materials Needed: Wire Cutter, Floral Wire.

Enabling Objectives: Knowledge of flowers and tools.

Performance Guide:

1. Assemble the tools and materials at the work area:
    a. Wire cutters
    b. Floral wire, 22-24 gauge
2. Assemble flowers at the work area (long stemmed varieties):
    a. Bulb flowers
    b. Roses
    c. Carnations, etc.
3. Carefully insert the wire into the base of the flower
4. Twist the remaining portion of wire down and around the stem, taking care to avoid damaging the stem
5. Cut off or twist any remaining wire up and around the stem of the flower

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 10. Dye Both Dried and Live Floral Products

****

Performance Objective: Given the materials listed below, dye both dried and live floral products.

Standard: The finished flowers must be smoothly covered and any color build-up must be avoided.

Materials Needed: Spray Dye, Spray Tint, Stem Dye, Non Aerosol Dye, Several Flower Types - Carnation, Pom Pon, Flowers for Demonstration.

Enabling Objectives: Knowledge of the various dye products and flowers each product is used for.

Performance Guide:

1. Read order to determine the colors of tint or dye will be needed
2. Assemble flowers and spray tints or dye work area
3. Spray tint or dye in a well ventilated room
4. Hold the materials to be spray tinted or dyed approximately eighteen inches from the can of spray tint or dye
5. Spray tint or dye the floral materials avoiding a build-up of color
6. Spray light coats allowing each coat to dry before applying the next one

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 11. Prepare Designed Ribbon Using Glue and Glitter

****

Performance Objective: Given the materials listed below, prepare a ribbon using glue and glitter.

Standard: Name or saying must be glued on the ribbon securely and spelled correctly.

Materials Needed: Ribbon, Name or Saying, Scissors, Glue, Glitter or Glitter Pen.

Enabling Objectives: Must have neat handwriting.
Have a knowledge of the materials and equipment used.

Performance Guide:

1. Select the color ribbon to be used
2. Cut it to the length needed for attaching all letters
3. Lay piece of ribbon flat on the table with right side up
4. With the glue, write or print neatly what the order calls for
5. Before the glue gets hard, sprinkle the glitter over the glue
6. Press the glitter onto the glue lightly
7. Let set before shaking the excess glitter off
8. Make sure the glue is dried before putting ribbon on arrangement to avoid smearing

Note: If using a glitter pen, press tube to mix glitter and glue ...together. Remove top and write the letters or words on the ...ribbon. Let dry before placing on arrangement.

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 12. Design Flowers for Athletic Occasions

****

Performance Objective: Given the materials listed below, design flowers for athletic occasions.

Standard: The flowers will be made according to order and without damaging the flower.

Materials Needed: #3,9,1 1/2 Ribbon, Gardenia Shield, Hot Glue Gun, Accessories, Stapler, Glitter and Glue, Chenille Stem, Scissors, Wire Cutters, Mum, Wire, and Tape.

Enabling Objectives: Know how to prepare ribbon with glitter and glue.
Know the design principles.
Knowledge of flowers and equipment.

Performance Guide:

1. Assemble materials
2. Tape and wire mum
3. Write on ribbons (#9 size)
4. Make school symbol from chenille - glue in center of mum with hot glue
5. Cut 6" strips of #9, fold into points and staple to gardenia shield, overlapping each one slightly
6. Cut lengths of #1 1/2, 3, and 9 ribbon ranging from 2 to 3 feet each. Staple to back of gardenia shield
7. Staple on written ribbons
8. Tie on accessories to #1 1/2 ribbons
9. Insert mum into gardenia shield and secure

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 13. Design Corsages

****

Performance Objective: Given the materials listed below, construct a corsage according to order without damaging flowers.

Standard: Order must be completed as specified and match or compliment the garment.

Materials Needed: Order to Make a Corsage, Wire 24 to 28 gauge, Flowers, Corsage Leaves, Knife to Cut Flowers, Ribbon and Scissors, Wrist Band - if Wrist Corsage, Corsage Tape, Corsage Pin, and a Corsage Bag.

Enabling Objectives: Know the design principles.
Know how to tape and wire.
Have a knowledge of flowers and equipment.

Performance Guide:

1. Wrist Corsage:
    a. Cut flowers to be used just below calyx
    b. Wire each flower with 24-26 gauge wire - cut in 1/2 tape with corsage tape
    c. Make corsage bow and tie together with ribbon streamer - leave streamers long enough to be able to tie around wrist. Set bow aside
    d. Take corsage leaf and one flower bud to start. Place flower bud on top of leaf. If Baby's Breath is being used, place a small amount between flower bud and leaf
    e. Add another flower to corsage right below the first to back it
    f. Tape with corsage tape
    g. Add another flower a little large this time to the side of group
    h. Repeat last three steps to make another half
    i. Bring both halves together (stem to stem) and fit so flowers are almost touching but leave enough space to place bow
    j. Secure stems with wire and tape to hide your work. Cut excess stems off
    k. Take wrist band and bend metal tabs over each half of stem press on with pliers

****

- l. Leave streamers so customer may tie around wrist so corsage will not slip around
  Note: You may use any shape corsage for a wrist if it is small enough in size by just adding the wrist band
- m. Leave off streamers and wrist band to have a pin or corsage
- n. Place pin in stem area and bag

2. Gladiolus Corsage (Glamilla):
   - a. Get a few open gladiolus and pull off each blossom plus buds
   - b. Starting with a bud place a wire 24 gauge through the bottom of the bud
   - c. Get next larger bud and break off the bottom
   - d. Place first bud into the center of the second with the wire coming out of the broken off bottom. Wire through both with 26 gauge wire
   - e. Get next size blossom (getting larger each time), break off bottom. Place the first group through the center of this one coming out of broken off bottom. Wire through all with 26 gauge wire
   - f. At this time the next blossom has to be cut in half after bottom is broken off. They are placed open around center ones forming a round circle getting larger each time but keeping them as flat as possible. Wire after each addition to hold together
   - g. When desired size is reached, tape all together with corsage tape. Don't pull tape hard - this corsage is very fragile
   - h. Add leaves to help support the blossoms and hide all the wiring
   - i. You may add a few buds around the main gladiolus for accent. A bow is not needed on this corsage
   - j. Trim wires, put pin in stem, and bag

3. Single Carnation Corsage:
   - a. Tape and wire carnation using the piercing method
   - b. Tape a leaf behind the carnation
   - c. Tape Baby's Breath around the rest of the carnation
   - d. Make a bow and secure it in the front of the flower
   - e. Trim the wires, put a pin in the calyx, and bag

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 14. Design Boutonnieres

****

Performance Objective: Given the materials listed below, design boutonnieres.

Standard: The order will be filled according to specifications and without damaging the flower.

Materials Needed: Flowers, Wire Cutters, Foliage, Tape, Wire, Boutonniere Pens, Boutonniere Bags.

Enabling Objectives: Knowledge of flowers and equipment.
Know how to tape and wire.

Performance Guide:

1. Tape and wire a carnation using the piercing method
2. Tape a piece of foliage behind the flower
3. Tape babies breath around the rest of the flower
4. Trim ends of wire, retape and cure stem
5. Place boutonniere pin in stem and bag boutonniere

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 15. Design Hair Flowers

****

Performance Objective: Given the materials listed below, design hair flowers.

Standard: The order will be filled according to specifications and be complimentary to the dress.

Materials Needed: Wire, Wire Cutters, Combs or Barrettes, Bobby Pins, Tape, Flowers, Foliage, Ribbon/Accesories, Hot Glue Gun and Glue.

Enabling Objectives: Knowledge of flowers and equipment.
Know how to wire and tape.

Performance Guide:

1. Assemble materials needed at work area
2. Tape and wire flowers using appropriate method
3. Flower comb or barrette:
    a. Use a large flower, surrounder with greenery, tape
    b. Add a smaller flower or bud on each end of the 1st flower
    c. Add greenery. Tape in place, trim wires, retape
    d. Add any ribbon or accessories
    e. Glue to comb or barrette
4. Flower side pierce:
    a. Assemble as if a small linear corsage
    b. Include bobby pins
5. Flower hair wreath:
    a. Tape 2 floral wires, join end to end
    b. Using small flowers, begin hot glueing flowers and greenery along wire
    c. Add accessories and ribbon as required
    d. When wires are filled then join ends forming a circle
    e. Ribbons used to hang for streamer can cover joining area

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 16. Design Dish Gardens (European)

****

Performance Objective: Given the materials listed below, design dish gardens.

Standard: Order must be completed as specified and made pleasing to the eye.

Materials Needed: An Order for a Dish Garden, Access to Plants, Knife, Container, Scissors, Moss, and Soil.

Enabling Objectives: Knowledge of plants and equipment.

Performance Guide:

1. Plan the dish garden to incorporate the principles of design:
   a. Scale and proportion
   b. Harmony
   c. Balance
   d. Rhythm
   e. Unity
   f. Repetition
   g. Focal point
2. Assemble plants at the work area
3. Assemble tools and materials at the work area:
   a. Knife
   b. Container
   c. Scissors
   d. Moss
4. Wash container
5. Put soil into container, filling approximately one-half of the container
6. Remove plants from growing containers
7. Trim roots of plants only if they are too large
8. Put roots of plants on the layer of soil
9. Cover roots with soil
10. Press soil around roots
11. Cover surface of soil with decorative materials, e.g. pebbles, moss, etc. (optional)
12. Clean leaves of plants and container
13. Add trim - bow - animals - trellis
14. Attach care card

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 17. Dress Foliage Plants

****

Performance Objective: Given the materials listed below, dress foliage plants.

Standard: Potted plants must be dressed appropriately for retail sales and delivery.

Materials Needed: Plants Which Need to be Dressed, Scissors, Color Foil, Wicker Basket, Ribbon, and a Bow.

Enabling Objectives: Be able to make a bow.
Knowledge of foliage plants.

Performance Guide:

1. Cut color foil paper at correct size and wrap around pot
2. Place bow in potted plant
3. Place potted plant in wicker basket
4. If needed, wrap ribbon around basket

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 18. Design Funeral Baskets

****

Performance Objective: Given the materials listed below, design funeral baskets.

Standard: The finished funeral basket must be completed as specified and pleasing to the eye using appropriate colors, size of flowers, and shape.

Materials Needed: An Order for a Funeral Basket and Access to Flowers, Floral Tape, Floral Knife and/or Shears, Floral Wire, and a Container.

Enabling Objectives: Knowledge of servicing funerals, flowers and equipment.

Performance Guide:

1. Plan the blanket to incorporate the principles of floral design:
    a. Scale and proportion
    b. Harmony
    c. Balance
    d. Rhythm
    e. Unity
    f. Repetition
    g. Focal area
2. Assemble cut flowers and foliage at the work area
3. Assemble tools and materials at work area:
    a. Absorbent floral foam for cut flower arrangements or styrofoam block if water picks are used
    b. Floral tape
    c. Floral knife and/or shears
    d. Floral wire
    e. Container for arrangements
4. Prepare the container to receive the flowers:
    a. Cut a piece of absorbent foam to fit the container
    b. Soak the foam for cut flowers in water
    c. Place the foam into the basket over a bed of shredded foam
    d. Anchor the foam with floral tape

5. Construct the funeral basket arrangement using the single-line sketch as a guide. (Funeral baskets can be either symmetrical or asymmetrical triangles. This is a guide for the symmetrical triangle arrangement):
   a. Cut the length of the first flower approximately two and a half times the height of the container, using knife or shears
   b. Wire the cut flowers (optional)
   c. Insert the first flower vertically on center in the back of the foam
   d. Insert the second and third flowers at each end of the foam forming right angles to the first vertical flower
   e. Insert a large flower (bloom) at the front of the container into the foam to form a focal area
   f. Fill in the open spaces with additional flowers avoiding exceeding the geometric pattern of the symmetrical triangle
   g. Fill in the arrangement with Foliage covering the rim, the back, and the mechanics of the arrangement

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 19. Design Funeral Vases

****

Performance Objective: Given the materials listed below, design funeral vases.

Standard: The finished funeral vase must be completed as specified and pleasing to the eye using appropriate colors, size of flowers, and shape.

Materials Needed: An Order for a Funeral Vase and Access to Flowers, Floral Foam, Tape, Knife, and/or Shears, Wire Cutters, Container, and Wire.

Enabling Objectives: Knowledge of flowers and equipment.
Knowledge of servicing funerals.
Know the design principles.

Performance Guide:

1. Plan the vase to incorporate the principles of floral design:
    a. Scale and proportion
    b. Harmony
    c. Balance
    d. Rhythm
    e. Unity
    f. Repetition
    g. Focal area
    h. Shape
2. Assemble cut flowers (such as glads and carnations) and foliage at the work area
3. Assemble tools and materials at work area:
    a. Absorbent floral foam for cut flower vase
    b. Floral tape
    c. Floral knife and/or shears
    d. Floral wire
    e. Container for arrangements
    f. Wire cut the ribbon (optional)

****

4. Prepare the container to receive the flowers:
    a. Cut a piece of absorbent foam to fit the container for the cut flowers
    b. Soak the foam for cut flowers in water (cut flowers)
    c. Place the foam on top of the shredded styrofoam
    d. Anchor the foam to the container with floral tape
5. Construct the funeral vase arrangement using the single-line sketch as a guide. (The symmetrical triangle is explained here; however, the asymmetrical triangle can be used for funeral vases):
    a. Cut the length of the first flower approximately two and a half times the height of the container in length, cutting dried and cut flowers with knife or shears
    b. Wire the cut flowers (optional)
    c. Insert the first flower vertically on center in the back of the foam
    d. Insert the second and third flowers at each end of the foam forming right angles to the first vertical flower
    e. Insert a large flower (bloom) at the front of the container into the foam to form a focal area
    f. Fill in the open spaces with additional flowers avoiding exceeding the geometric pattern of the symmetrical triangle
    g. Fill in the arrangement with Foliage, covering the rim, the back and the mechanics of the arrangement

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 20. Design Funeral Wreaths

****

Performance Objective: Given the materials listed below, design funeral wreaths.

Standard: The finished funeral wreath must be completed as specified and pleasing to the eye using appropriate colors, size of flowers, and shape.

Materials Needed: An Order for a Funeral Wreath and Access to Flowers, Floral Shears or Knife, Wreath Frame, Ribbon, Letters for Ribbon, Easel, Pins, Water Picks, and Wooden Picks.

Enabling Objectives: Knowledge of flowers and equipment.
Knowledge of servicing funerals.
Know the design principles.

Performance Guide:

1. Plan the wreath to incorporate the principles of floral design:
    a. Scale and proportion
    b. Harmony
    c. Balance
    d. Rhythm
    e. Unity
    f. Repetition
    g. Focal area
    h. Shape
2. Assemble the flowers and Foliage at the work area
    a. Cut flowers
    b. Artificial

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 20. Design Funeral Wreaths (Continued)

****

3. Assemble tools and materials at work area:
    a. Wreath frame
    b. Ribbon
    c. Floral knife and/or shears
    d. Letters for ribbon (optional)
    e. Easel
    f. Greening pins
    g. Water picks
    h. Wooden picks
4. Wrap the wreath frame with ribbon as if wrapping a bandage. Insert a greening pin through the styrofoam to hold the ribbon in place. (Wrap only the portion of the wreath that will be exposed)
5. Push a greening pin horizontally through the satin ribbon at the end of the wrapping to hold it in place
6. Design the cluster:
    a. Cut a flower stem to an appropriate length and place it on the wreath frame
    b. Insert a greening pin over the stem and into the ring to hold it in place, or insert flower into water pick and insert into wreath frame; or using a small piece of oasis attach to wreath frame with wooden picks and place flowers in oasis in the same manner
    c. Add other flowers in this manner until the desired cluster is achieved
    d. Add Foliage to create color contrast and to fill in open spaces in the cluster
7. Tie a bow
8. Fasten the bow to a wooden pick
9. Insert the wooden pick into the frame at the center of the cluster
10. Fluff the bow loops
11. Attach enclosure card

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 21. Design Set Pieces

****

Performance Objective: Given materials listed below, design set pieces.

Standard: The order will be filled according to specifications and without damaging the flowers.

Materials Needed: Styrofoam Form, Greening Pins, Flowers, POMPONS or Carnations, Easel, Ribbon.

Enabling Objectives: Knowledge of flowers and equipment.
Knowledge of servicing funerals.
Know design principles.

Performance Guide:

1. Assemble materials
2. Cut flowers off leaving no stem
3. Place flowers flat on styrofoam and insert greening pin in center of flower and push pin flush with styrofoam
4. Begin on flat edges then fill in surface in an orderly manner
5. Secure to easel
6. Enhance with Ribbon

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 22. Design Funeral Sprays

****

Performance Objective: Given materials listed below, design funeral sprays.

Standard: The finished funeral spray must be completed as specified and pleasing to the eye using appropriate colors, size of flowers, and shape.

Materials Needed: An Order for a Funeral Spray and Access to Flowers, Floral Shears, Ribbon Scissors, Wire Cutters, Foam, Foil, Wooden or Water Picks, Chenille Stems, Ribbon, Easel, and Casket Saddle.

Enabling Objectives: Knowledge of servicing funerals, flowers and equipment.
Know the design principles.

Performance Guide:

1. Plan the blanket to incorporate the principles of floral design:
    a. Scale and proportion
    b. Harmony
    c. Balance
    d. Rhythm
    e. Unity
    f. Repetition
    g. Focal area
2. Assemble fresh cut flowers and foliage

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 22. Design Funeral Sprays (Continued)

****

3. Assemble tools and supplies at work area:
   a. Floral shears or knife
   b. Ribbon scissors
   c. Wire cutters
   d. Floral foam
   e. Foil
   f. Wooden or water picks
   g. Floral chenille stems
   h. Ribbon
   i. Easel (optional)
   j. Water sprayer
   k. Casket saddle
4. Construct the base using either floral foam or styrofoam:
   a. Soak floral foam in water only if water picks are not used
   b. Cut a square of foil large enough to cover complete block of foam
   c. Wrap the floral foam in the foil
   d. Bind the wrapped block vertically and horizontally with green floral thread
   e. Wire the block to the easel with chenille stems by winding the stem wire around the block in four places twisting it in the back of the frame of the easel
   f. If using styrofoam, cut a block from a slab that is 2" x 3 1/2" x 18"
   g. Hook the top of the styrofoam bar to the easel hook (optional)
   h. Bind the bar to the easel with number 18- or 20- gauge wire (optional)
5. Construct the triangle or shield-shape design of the spray with three line flowers (water pick all cut flowers when using styrofoam bases)
6. Insert the same flowers along the edge of the base to fill in the shape of the shield or triangle
7. Fill in the design with additional mass and form flowers to give it a three-dimensional effect
8. Add foliage to create contrast and to fill the openings in the spray
9. Insert a large ribbon bow (9, 40 or 100) or puffs mounted on wooden picks low and to the center of the design
10. Insert additional flowers and foliage around the bow to de-emphasize the ribbon
11. To make a casket spray - place floral foam in casket saddle instead of on easel

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 23. Design Oval Arrangements

****

Performance Objective: Given materials listed below, design an oval arrangement.

Standard: The order must be completed as specified, and made pleasing to the eye.

Materials Needed: Order for an Oval (Round) Flower Arrangements, Access to Flowers/Floral Foam, Styrofoam, Tape, Shears, Wire Container, and Wood Picks.

Enabling Objectives: Know the design principles.
Knowledge of flowers and equipment.

Performance Guide:

1. Plan the arrangement to incorporate the principles of floral design:
   a. Shape
   b. Scale and proportion
   c. Harmony
   d. Balance
   e. Rhythm
   f. Unity
   g. Repetition
   h. Focal Point
2. Assemble flowers and foliage:
   a. Cut (fresh) or
   b. Dried or
   c. Artificial
3. Assemble tools and supplies:
   a. Absorbent floral foam for cut flower arrangements
   b. Dry floral foam for dried arrangements
   c. Styrofoam for artificial arrangements
   d. Floral tape
   e. Floral knife and/or shears
   f. Wire cutters for artificial materials
   g. Floral wire
   h. Wood or steel picks for dried and artificial materials
   i. Container for arrangement

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 23. Design Oval Arrangements (Continued)

****

4. Prepare the container to receive the flowers
    a. Cut a piece of foam to fit the container:
        (1) Soak the foam in water when using cut flowers
        (2) Use dry foam with dried materials
        (3) Use styrofoam for artificial materials
    b. Place the foam into the container
    c. Anchor the foam into the container with floral tape
5. Construct the oval (round) arrangement using the single-line sketch as a guide
    a. Cut the first flower to a length that is proportionate to the size of the container, but low enough to be able to see over the arrangement:
        (1) Cut dried and cut flowers with shears or knife
        (2) Cut artificial materials with wire cutters
    b. Wire cut flower stems, if necessary, or pick dried and artificial materials
    c. Insert the flower into the foam slightly to the left of center
    d. Cut the second flower approximately the same length of the first and insert it into the foam forming a right angle to the first placement
    e. Cut the third, fourth and fifth flowers the same length and insert them into the foam around the rim of the container to form the primary outline of round arrangement
    f. Cut additional line flowers slightly shorter and insert them into the foam forming forty-five degree angles to the first placements
    g. Cut filler flowers and insert them into the open spaces of the arrangement. (Do not exceed the established lines of the geometric pattern)
    h. Cut foliage and insert it into the remaining open spaces of the arrangement, covering all mechanics. (Do not exceed the established lines of the geometric pattern)

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 24. Design Line Arrangements

****

Performance Objective: Given materials listed below, design line arrangements.

Standard: Order must be completed as specified and made pleasing to the eye.

Materials Needed: An Order for a Vertically Shaped Flower Arrangement and Access to Flowers, Floral Foam, Tape, Shears, Wire Cutters, Wire Wood or Steel Picks, and a Container.

Enabling Objectives: Knowledge of flowers and equipment.
Know the design principles.

Performance Guide:

1. Plan the arrangement to incorporate the principles of floral design:
    a. Shape
    b. Scale and proportion
    c. Harmony
    d. Balance
    e. Rhythm
    f. Unity
    g. Repetition
    h. Focal area
2. Assemble flowers and foliage:
    a. Cut (fresh) or
    b. Dried or
    c. Artificial

****

3. Assemble tools and supplies:
    a. Absorbent floral foam for cut flower arrangements
    b. Dry floral foam for dried arrangements
    c. Artificial
    d. Floral tape
    e. Floral knife and/or shears
    f. Wire cutters for artificial materials
    g. Floral wire
    h. Wood or steel picks for dried and artificial materials
    i. Container for arrangement
4. Prepare the container to receive the flowers
    a. Cut a piece of foam to fit the container:
        (1) Use water absorbent foam for cut flowers
        (2) Use styrofoam for artificial materials
    b. Place the foam into the container
    c. Anchor the foam into the container with floral tape
    d. Soak the foam in water when using cut flowers
5. Construct the vertical arrangement using the single-line sketch as a guide
    a. Cut the first flower to a length that is approximately one-and-a-half to two times the height of the container
        (1) Cut dried and cut flowers with shears or knife
        (2) Use styrofoam with artificial materials
    b. Wire cut flower stems, if necessary
    c. Pick artificial and dried materials
    d. Insert the first flower into the floral foam to the back and slightly off center
    e. Cut three or four additional flowers each progressively shorter than the first
    f. Insert them vertically on each side of the first flower
    g. Cut three additional flower stems that have larger blooms
    h. Insert these at the center of foam near the front rim of the container
    i. Fill in open spaces with filler flowers and/or foliage
    j. Insert single broad leaves at the back of the vertical flowers, if desired
    k. Insert foliage at the back and around the rim of the container covering the mechanics of the arrangement

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 25. Design Symmetrical Arrangements

****

Performance Objective: Given materials listed below, design a symmetrical arrangement.

Standard: The order must be completed as specified and made pleasing to the eye.

Materials Needed: Order for a Symmetrical Flower Arrangement, Flowers, Floral Foam, Tape, Shears, Wire Cutters, Wire, Container, and Wood or Steel Picks.

Enabling Objectives: Knowledge of flowers and equipment.
Know the design principles.

Performance Guide:

1. Plan the arrangement to incorporate the principles of floral design:
    a. Shape
    b. Scale and proportion
    c. Harmony
    d. Balance
    e. Rhythm
    f. Unity
    g. Repetition
    h. Focal point
2. Assemble flowers and foliage:
    a. Cut (fresh) or
    b. Dried or
    c. Artificial
3. Assemble tools and supplies:
    a. Absorbent floral foam for cut flower arrangements
    b. Dry floral foam for dried arrangements
    c. Styrofoam for artificial arrangements
    d. Floral tape
    e. Floral knife and/or shears
    f. Wire cutters for artificial materials
    g. Floral wire
    h. Wood or steel picks for dried and artificial materials
    i. Container for arrangement

****

4. Prepare the container to receive the flowers and foliage
    a. Cut a piece of foam to fit the container:
        (1) Use water absorbent foam for cut flower arrangements
        (2) Use styrofoam for artificial floral arrangements
        (3) Use dry foam for dried floral arrangements
    b. Place the foam into the container
    c. Anchor the foam into the container with floral tape
    d. Soak the foam in water when using cut flowers
5. Construct the symmetrical arrangement using the single-line sketch as a guide
    a. Cut the first flower to a length that is approximately two-and-a-half times the height of the container in length
        (1) Cut dried and cut flowers with shears or knife
        (2) Cut artificial materials with wire cutters
    b. Wire cut flower stems, if necessary
    c. Pick artificial and dried materials
    d. Insert the first flower vertically on center in the back of the foam
    e. Insert the second and third flowers at each end of the foam forming right angles to the first vertical flower
    f. Insert a large flower (bloom) at the front of the container into the foam to form a focal area
    g. Fill in the open spaces with additional flowers avoiding exceeding the geometric pattern of the symmetrical triangle
    h. Fill in the arrangement with foliage covering the rim, the back and the mechanics of the arrangement

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 26. Design Asymmetrical Arrangements

****

Performance Objective: Given materials listed below, design an asymmetrical arrangement.

Standard: Flowers must be arranged in an appealing and attractive manner. Arrangements must be made so that flowers direct the eye to a right angle.

Materials Needed: Order for a Asymmetrical Flower Arrangement, Flowers, Floral Foam, Tape, Shears, Wire Cutters, Wire, Container, and Wood or Steel Picks.

Enabling Objectives: Knowledge of flowers and equipment.
Know the design principles.

Performance Guide:

1. Plan the arrangement to incorporate the principles of floral design:
    a. Shape
    b. Scale and proportion
    c. Harmony
    d. Balance
    e. Rhythm
    f. Unity
    g. Repetition
    h. Focal point
2. Assemble flowers and foliage:
    a. Cut (fresh) or
    b. Dried or
    c. Artificial

****

3. Assemble tools and supplies:
    - a. Absorbent floral foam for cut flower arrangements
    - b. Dry floral foam for dried arrangements
    - c. Styrofoam for artificial arrangements
    - d. Floral tape
    - e. Floral knife and/or shears
    - f. Wire cutters for artificial materials
    - g. Floral wire
    - h. Wood or steel picks for dried and artificial materials
    - i. Container for arrangement
4. Prepare the container to receive the flowers and foliage
    - a. Cut a piece of foam to fit the container:
        - (1) Use water absorbent foam for cut flower arrangements
        - (2) Use styrofoam for artificial floral arrangements
        - (3) Use dry foam for dried floral arrangements
    - b. Place the foam into the container
    - c. Anchor the foam into the container with floral tape
    - d. Soak the foam in water when using cut flowers
5. Construct the asymmetrical arrangement using the single-line sketch as a guide
    - a. Cut the first flower to a length that is approximately two-and-a-half times the height of a tall container or two and one half times the width of a shallow container
        - (1) Cut dried and cut flowers with shears or knife
        - (2) Cut artificial materials with wire cutters
    - b. Wire cut flower stems, if necessary
    - c. Pick artificial and dried materials
    - d. Insert the first flower slightly to the left or right of center rear of the foam
    - e. Cut a second flower approximately the same length of the first flower
    - f. Cut a third flower and insert it about thirty degrees below the horizontal line on the opposite side of the second flower to form the basic outline of the asymmetrical triangle
    - g. Cut additional flowers shorter than the first three and insert these into the floral foam filling in to form a complete arrangement
    - h. Cut foliage to a length that will not exceed the proportions of the basic outline of the asymmetrical triangle
    - i. Insert the foliage into the foam filling in the open spaces at the back of the arrangement
    - j. Insert foliage to cover the rim of the container
    - k. Insert foliage to cover the mechanics of the arrangement in the back

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 27. Design Round Arrangements

****

Performance Objective: Given materials listed below, design a round arrangement.

Standard: The order will be pleasing to the eye.

Materials Needed: Flowers, Foliage, Container, Floral Foam, Anchor Tape, Knife.

Enabling Objectives: Knowledge of flowers and equipment.
Know the design principles.

Performance Guide:

1. Assemble materials
2. Soak foam, cut and fit foam into design bowl. Secure with anchor tape
3. Green up the container with foliage - design a circle and cover the center
4. Place five carnations - one in the center and the other four in the form of an X. Insert on the sides
5. Fill in all the areas still open with pompons
6. Fill in the other spaces with babies breath
7. The arrangement should be round and domed shaped

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 28. Design Hogarth-Shaped Arrangements

****

Performance Objective: Given materials listed below, design a S-shaped (Hogarth) arrangement.

Standard: Flowers must be arranged in an appealing and attractive manner. Arrangements must be made so that flowers direct the eye to the S shaped design.

Materials Needed: Order for a S-Shaped (Hogarth) Flower Arrangement, Flowers, Floral Foam, Styrofoam, Tape, Shears, Wire Cutters, Wire, Container, and Wood or Steel Picks.

Enabling Objectives: Knowledge of flowers and equipment.
Know the design principles.

Performance Guide:

1. Plan the arrangement to exhibit the principles of floral design:
    a. Shape
    b. Scale and proportion
    c. Harmony
    d. Balance
    e. Rhythm
    f. Unity
    g. Repetition
    h. Focal point
2. Assemble flowers and foliage at work area:
    a. Cut (fresh) or
    b. Dried or
    c. Artificial

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 28. Design Hogarth-Shaped Arrangements (Continued)

****

3. Assemble tools and supplies at work area:
   a. Absorbent floral foam for cut flower arrangements
   b. Dry floral foam for dried arrangements
   c. Styrofoam for artificial arrangements
   d. Floral tape
   e. Floral knife and/or shears
   f. Wire cutters for artificial materials
   g. Floral wire
   h. Wood or steel picks for dried and artificial materials
   i. Container for arrangement
4. Prepare the container to receive the flowers
   a. Cut a piece of floral foam to fit the container:
      (1) Use the oasis in water when arranging with cut flowers
      (2) Use styrofoam for artificial floral arrangements
      (3) Use dry foam for dried floral arrangements
   b. Place the foam into the container
   c. Anchor the foam into the container with floral tape
5. Construct the S-shaped (Hogarth) arrangement using the single-line sketch as a guide
   a. Cut the first flower to a length that is approximately two times the height of the container in length
   b. Wire the flower, if it does not have a natural curve to the right, and bend it to form this curve
   c. Pick artificial flower and bend it to form a right curve
   d. Insert the flower into the foam so that it will curve back to a point over the center
   e. Wire a second flower and bend it so that it curves to the left or pick and bend an artificial flower
   f. Insert the flower low into the foam and to the right, allowing the curve to return to as close to the central axis as possible
   g. Insert additional medium-size flowers into the floral foam in the transition section
   h. Insert full bloom flowers into the focal area
   i. Insert foliage to fill in the arrangement
   j. Trim off damaged or unattractive leaves that cluster the smooth flow of the s-curve

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 29. Design Special Occasion and Novelty Arrangements

****

Performance Objective: Given materials listed below, design special occasion and novelty arrangements.

Standard: The arrangement will be completed according to order and will be pleasing to the eye.

Materials Needed: Containers (novelty), Flowers, Foliage, Floral Foam, Anchor Tape, Knife, Scissors, Ribbon, Wire, Picks.

Enabling Objectives: Knowledge of flowers equipment.
Know how to design arrangements.
Know design principles.

Performance Guide:

1. Assemble materials
2. Select appropriate container and accessories
3. Design appropriate style of arrangement for container
4. Attach accessories

* May be done with silk also *

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 30. Design Bud Vases

****

Performance Objective: Given materials listed below, design bud vases.

Standard: Order must be completed as specified and made pleasing to the eye.

Materials Needed: An Order for a Bud Vase and Access to Flowers and Equipment, Knife or Shears, Container, Ribbon, Foliage.

Enabling Objectives: Knowledge of tools, containers and flowers. Be able to read an order.

Performance Guide:

1. Assemble tools and supplies at the work area:
    a. Floral knife and/or shears
    b. Container
    c. Flowers such as:
        (1) Carnations
        (2) Roses
    d. Foliage
    e. Ribbon for bow (optional)
2. Plan the vase to incorporate the principles of floral design:
    a. Shape
    b. Scale and proportion
    c. Harmony
    d. Balance
    e. Rhythm
    f. Unity
    g. Repetition
    h. Focal area
3. Read the order to determine if it is to be single, two- or three-flower bud vase
4. Fill the container with water
5. Cut the foliage stems to be proportionate to the height of the container

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6. Insert the foliage into the bud vase. (Upper flowers should have the smallest threads and/or tightest buds)
7. Select one, two or three flower buds that are fairly tight
8. Cut the bud stems to be proportionate to the height of the container
   a. if the bud vase is to have two flowers, cut the second stem slightly shorter than the first
   b. If the bud vase is to have three flowers, cut the second stem shorter than the first and the third slightly shorter than the second
9. Insert the flower stems into the vase in front of the foliage.
   a. If the bud vase is to have two flowers, the second placement should be slightly lower than the first flower than the first flower
   b. If the bud vase is to have three flowers, the second flower should be slightly lower than the first and the third flower should be slightly lower than the second
10. Tie a bow and attach it to a wooden pick and insert it into the front of the vase

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 31. Make Fruit Baskets

****

Performance Objective: Given materials listed below, make fruit baskets.

Standard: The fruit basket will be pleasing to the eyes and balanced.

Materials Needed: Basket, Fruit - Apples (red and green), Oranges, Grapefruit, Bananas, Pears, Grapes, Candy - Individual Wrapped Pieces, Cellophane, Ribbon, Wire, Scissors, Easter Grass.

Enabling Objectives: Know design principles.
Knowledge of equipment.
Be able to make a bow.

Performance Guide:

1. Assemble materials, cut large sheet of Cellophane and place basket in center of it
2. Place Easter grass in basket
3. Begin to pyramid fruit using largest fruit at bottom. Drape grapes at top
4. Place candies in holes between fruit
5. Gently gather Cellophane around the fruit - bunch it up on top and secure with a wire
6. Make a bow, secure around wire holding Cellophane together

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 32. Wrap and Box Flowers and Foliage

****

Performance Objective: Given materials listed below, wrap and box flowers and foliage.

Standard: Flowers must be wrapped or boxed securely.

Materials Needed: Flowers on Stem, Foliage, Rose Box, Green Wax Paper, Ribbon, Wire, Scissors.

Enabling Objectives: Knowledge of flowers and equipment.
Know how to straight wire and make a bow.

Performance Guide:

1. Assemble materials
2. Wire flowers if necessary
3. Open box or spread sheet of green paper
4. Lay foliage first, layer flowers on foliage alternating varieties. Tuck in more foliage.
5. Close box or wrap paper to form cone. Secure
6. Make a bow, attach to flower container

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 33. Design and Construct a Nosegay Bouquet

****

Performance Objective: Given materials listed below, design and construct a nosegay bouquet.

Standard: Nosegay must be attractive and made light in weight in order to be easily carried.

Materials Needed: Order for a Nosegay Bouquet, Lace Backing, Flowers and Greens, Wire, Corsage Tape, Shears, Ribbon and a Bouquet Holder.

Enabling Objectives: Know the design principles.
Knowledge of flowers, taping, and wiring equipment.

Performance Guide:

1. Gather flowers to be used
2. Start with center flower and place it 3-4" above bouquet holder
3. Place the next 4 flowers - north, south, east, and west of the center flower toward the back of the bouquet holder and extend them 2-3" over the edge of the holder
4. Place the other flowers to fill in between the 5 points to form a dome
5. To finish bouquet place in a colonial lace backing or with leaves or net tufts to hide the stems and protect the dress
6. Add ribbon by making streamers and putting the end you are holding in a 3" pick. Place this in the bottom of the bouquet to hang down. The streamers should match the dress or flower to whatever the order calls for

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 34. Design and Construct a Cascade Bouquet

****

Performance Objective: Given materials listed below, design and construct a cascade bouquet.

Standard: Bouquet must not be too over-powering but must enhance the gown and the bride.

Materials Needed: Order for a Cascade Bouquet, Bouquet Holder-Oasis, Flowers, Wire, 3" Picks, Corsage Tape, and Lace Backing or Net.

Enabling Objectives: Know the design principles.
Knowledge of flowers, taping and wiring, bow making and equipment.

Performance Guide:

1. Gather all the flowers to be used
2. If using oasis holder, stems on the flowers should be left long as if you were going to make an arrangement. They are placed right into the oasis
3. Starting with the center, take one of the main flowers and set it about 4" from holder
4. Take the next 4 flowers and place them one each - north, south, east, and west of the center flower towards the back. They should extend about 2-3" over the edge of the holder. This will form a round bouquet
5. Fill in with the other flower to meet each of the 5 points (center and 4 outer points). The flowers in the center should be like a mound and gradually slope to the back of the bouquet on all sides
6. To make the cascade part, start with small buds and leaves. Put one bud right under the other until you have a piece about 2-3" long

TASK: 34. Design and Construct a Cascade Bouquet (Continued)

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7. Start taking some of the buds that should now be getting a little larger in size and instead of putting them right underneath, spread the blossoms out a little as they are added, so as you get to the desired length you are a little wider on the end you are going to attach to the round part of the bouquet. Tape as you add each flower. If there is more than one small flower to be used in the bouquet, make sure that you put the same flowers in the extension part as in the round part of the bouquet, unless order said otherwise
8. When extension is desired length, cut the stems off leaving about a 1-1/2 to 2" stem. Tape end securely so no wires will tear dress
9. Add the 3" pick and tape again to be secure
10. Place the pick into the bottom of the bouquet holder toward the back. You can have more than one extension depending on the order or size of the girl
11. Place a lace backing to support the round part of the bouquet and to hide the stems. Tufts of net may also be used in the back to hide the stems and protect the dress

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 35. Design and Construct a Crescent Bouquet

****

Performance Objective: Given materials listed below, design and construct a crescent bouquet.

Standard: Bouquet must not be too over-powering and must enhance the dress.

Materials Needed: Order for a Crescent Bouquet, Bouquet Holder, Flowers, Wire, Floral Tape.

Enabling Objectives: Know the design principles.
Know how to make a nosegay.
Know flowers, taping and wiring, bow making, and equipment.

Performance Guide:

1. Gather all the flowers to be used
2. Stems on flowers should be left as if you were making an arrangement
3. Make a nosegay bouquet
4. Make 2 extension pieces or "tails" - one about half as long as the other. Begin with small buds and work up to larger blossoms. Be sure to mix all types and colors of flowers being used
5. While holding the nosegay, place the longer "tail" to the lower right side of the nosegay. Bend the stems to go with the stems of the nosegay. Tape in place
6. Place the other "tail" to the upper left side of the bouquet - bend the stems and tape to bouquet. This should form the crescent
7. Trim the wires and retape ends
8. Ribbons may be hung from nosegay

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 36. Design and Construct an Arm Bouquet (Presentation)

****

Performance Objective: Given materials listed below, design and construct an arm bouquet.

Standard: Bouquet must be pleasing to the eye, flow attractively over the girl's arm, and enhance the gown.

Materials Needed: Order for an Arm Bouquet, Wire-24 Gauge, Leaves, Shears, Ribbon, and Corsage Tape.

Enabling Objectives: Know the design principles.
Knowledge of flowers, wiring, bow making, equipment.

Performance Guide:

1. Gather all the flowers to be used
2. Wire each flower starting with wire into the calyx and coming down the stem
3. Start with a long piece of greens (baker fern)
4. Place first flower on green and wire them together
5. Gradually add a few flowers and Baby's Breath, wiring each as you add them. You are forming a vertical design to lay across your arm
6. Building the flowers up to a small mound and spreading them out a little toward the bottom or end of the bouquet
7. Cut the stems long enough to be able to put your hand around about 4-5"
8. Tape the end of all the stems together so no wire will stick the customer or tear her dress

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 37. Design and Service Wedding Arrangements

****

Performance Objective: Given materials listed below, design and service wedding arrangements.

Standard: The decorations must be set up as specified by the plans and must be removed without leaving any debris or damage to furniture and fixtures.

Materials Needed: Plan for Decorating a Church for a Wedding, Tape, Scissors, Wire, and Corsage Pins.

Enabling Objectives: Knowledge of floral equipment and servicing of weddings.

Performance Guide:

1. Read the Plans
2. Assemble the tools, props, floral decorations and supplies:
    a. Tape
    b. Scissors
    c. Wire
    d. Corsage Pins
3. Telephone the church to find out when you may set up the decorations
4. Load the delivery vehicle
5. Check in with church personnel before beginning to decorate
6. Put props, flower arrangements, candelabrums, etc.,, at locations specified by the plan
7. Set up runner:
    a. Unwrap from paper
    b. Find one end and secure it to the floor
        (1) Carpet use corsage pins
        (2) Tile or wood use floor tape
    c. Set other end so ushers can find it easy to pull when the time comes. If using a paper runner, find pull string and set it where it can easily be found by ushers
8. Clean up debris
9. Carry tools to delivery vehicle
10. Dismantle decorations after checking with bridal party to see that photographs have been completed

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 37. Design and Service Wedding Arrangements (Continued)

****

11. Remove props and decorations avoiding damage to church fixtures
12. Carry props, decorations, tools and materials to delivery vehicle
13. Clean up and dispose of debris

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 38. Design With Balloons

****

Performance Objective: Given materials listed below, create design with balloons.

Standard: The balloon arrangement will be pleasing to the eye and according to order.

Materials Needed: Helium, Balloons, Streamers, Discs, Scissors, Accessories, Cards.

Enabling Objectives: None.

Performance Guide:

1. Fill balloons and close off with disc and ribbon
2. Arrange balloons varying the levels
3. Tie balloons together. Curl streamers below the tie knot and from each balloon at the disc
4. Attach card to streamer
5. Balloons may be attached to stick to add to arrangement

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 39. Apply Basic Care to Interior Plants

****

Performance Objective: Given materials listed below, apply basic care to interior plants.

Standard: Give the basic care for interior plants with 95% accuracy.

Materials Needed: Slides or Film Strip of Plants, Reference Books.

Enabling Objectives: Knowledge of interior plants.
Be able to use a reference.

Performance Guide:

1. Give a plant example
2. Must know: light, fertilizer and water requirements, also pests common to plant
3. Look up information when not known

DUTY: E. DESIGNING ARRANGEMENTS

TASK: 40. Apply Basic Care to Floral Arrangements

****

Performance Objective: Given materials listed below, apply basic care to floral arrangements.

Standard: Give the basic instructions for caring for a floral arrangement with 100% accuracy.

Materials Needed: Different Cut Flower Arrangement Examples, Bulb Flowers, General Mix, Roses.

Enabling Objectives: Knowledge of cut flowers and foliage.

Performance Guide:

1. Give examples of flower arrangement
2. Recite that arrangement needs:
    a. To be out of drafts
    b. Watered daily
    c. To be out of direct sun

DUTY: F. PERFORM SALES DUTIES

TASK: 1. Complete Sales Slip

****

Performance Objective: Given materials listed below, complete sales slip.

Standard: Sales slips should be filled out completely and accurately.

Materials Needed: Sales Slip, Calculator (optional), Pen/Pencil.

Enabling Objectives: Be able to write clearly.
Be able to add monetary amounts.
Be able to calculate sales tax.
Be able to read price list.
Be able to identify merchandise.

Performance Guide:

1. Given a sales slip, fill out date, name, salesperson etc.
2. Fill in quantities, items, price each and extensions for items be bought
3. Add totals together to compute subtotal
4. Calculate sales tax on subtotal
5. Add these together to compute total cost for all items sold

DUTY: F. PERFORM SALES DUTIES

TASK: 2. Compute Sales Tax

****

Performance Objective: Given materials listed below, compute sales tax.

Standard: Compute sales tax with and without tax table.

Materials Needed: Calculator, Sales Tax Table, Pen/Pencil.

Enabling Objectives: Must be able to figure percentages.
Be able to add.
Knowledge of taxable/non-taxable items.

Performance Guide:

1. Using sales tax table, find the amount of tax required for the dollar amount of merchandise
2. Add this to the amount of merchandise
3. Using calculator - multiply tax rate % by the amount total of merchandise
4. Add this to the amount of merchandise

DUTY: F. PERFORM SALES DUTIES

TASK: 3. Prepare Sales Invoice

****

Performance Objective: Given materials listed below, prepare sales invoice.

Standard: Sales invoice must include customer information, salesperson's signature, type of sale, method of shipping, purchase information and cost.

Materials Needed: Order, Price List, Sales Invoice.

Enabling Objectives: Be able to write clearly or type correctly.
Be able to add and subtract.

Performance Guide:

1. Obtain a sales invoice
2. Complete a sales invoice:
   a. Include information concerning the customer:
      (1) Name and address
      (2) Phone number
      (3) Delivery instructions, if required
   b. Include information concerning the purchase:
      (1) Date
      (2) Quantity of items purchased
      (3) Name and description of items purchased
      (4) Inventory/catalog number of items purchased
      (5) Price of item purchased
      (6) Delivery date
   c. Indicate type of sale:
      (1) Cash sale
      (2) Lay-away
      (3) Company charge
      (4) Credit-card
      (5) C.O.D.
   d. Indicate method of shipping:
      (1) Parcel post
      (2) Special delivery
      (3) Growers truck

****

e. Total the sales invoice:
  (1) Figure line items totals by multiplying cost of item by the quantity
  (2) Add all line items and record on sales invoice
  (3) Determine amount of sales tax on taxable items and record on sales ticket

DUTY: F. PERFORM SALES DUTIES

TASK: 4. Deposit Daily Cash Receipts

****

Performance Objective: Given materials listed below, deposit daily cash receipts.

Standard: A deposit slip must be completed and daily cash receipts must be totaled. The deposit must be made according to company's safety policy and a deposit receipt must be obtained and filed.

Materials Needed: Money Bag, Deposit Slip, Batch Header Slip, "Deposit Only" Stamp, Deposit Amount (currency, coin, and checks).

Enabling Objectives: Be able to count currency coin and checks.
Be able to operate cash drawer.

Performance Guide:

1. Total the amount of daily cash receipts in deposit:
    a. Add the currency
    b. Add the coins
    c. Add the checks
    d. Add the credit card receipts
2. Stamp back of checks with the business' "For Deposit Only" stamp
3. Complete deposit slip and/or batch header:
    a. Record the date of deposit
    b. Enter the amount of deposit
    c. Enter the account to which the deposit will be credited
4. Place deposit, deposit slip and/or batch header in a money bag
5. Make the deposit:
    a. Give money bag to the instructor
    b. Obtain a deposit receipt
6. File receipt

DUTY: F. PERFORM SALES DUTIES

TASK: 5. Suggest Care of Plants for Customers

****

Performance Objective: Given materials listed below, suggest care of plants for customers.

Standard: Explain to the customer the care of the plants.

Materials Needed: Plants, Customer.

Enabling Objectives: Identify plants and their requirements.
Be able to speak clearly, effectively.

Performance Guide:

1. Identify the plant
2. Explain light exposure
3. Describe watering
4. Explain fertilization
5. Explain pruning procedures
6. Explain pest control and disease control
7. Explain seasonal care
8. Explain proper temperature and ventilation
9. Explain repotting
10. Answer additional customer questions

DUTY: F. PERFORM SALES DUTIES

TASK: 6. Determine Customer Needs

****

Performance Objective: Given materials listed below, determine customer needs.

Standard: Help customer select flowers or plants.

Materials Needed: Flowers, Houseplants, Customer.

Enabling Objectives: Be able to talk clearly and knowledgeably.
Have neat personal appearance.
Knowledge of flowers and plants.

Performance Guide:

1. Determine quality and quantity of light in proposed setting
2. Determine humidity
3. Determine amount of time customer can spend on plant care
4. Determine if customer prefers a flowering or foliage plant
5. Determine if customer prefers a standing or hanging plant
6. Determine size and shape of plant desired by customer
7. Select plant
8. Suggest accessories for use with the plant (pots, baskets, lights, fertilizer, etc.)
9. Determine if pick-up or delivery
10. Close the sale

DUTY: F. PERFORM SALES DUTIES

TASK: 7. Fill Customer Orders for Merchandise and Plants

****

Performance Objective: Given materials listed below, fill customer orders for merchandise and plants.

Standard: Fill customer order efficiently and courteously.

Materials Needed: Customer, Order Blank, Sales Slip, Delivery Form, Pen/Pencil.

Enabling Objectives: Be able to write clearly and spell correctly.

Performance Guide:

1. Record customer name and address
2. Determine time of delivery or customer pick-up
3. Determine the product needed
4. Select the merchandise for the order or plants
5. Determine quantity of plants needed
6. Mark the merchandise with customer name and address
7. Place a "SOLD" tag on the merchandise
8. File order in designated place
9. Prepare bill according to company system
10. Note back orders (if any)

DUTY: F. PERFORM SALES DUTIES

TASK: 8. Display Retail Products

****

Performance Objective: Given materials listed below, display retail products.

Standard: Retail product display areas must be clean well-organized, and balanced. All prices on retail products must be marked.

Materials Needed: Props, Price Tags, Retail Products.

Enabling Objectives: Be able to use lettering tools.
Knowledge of measuring skills.
Be able to spell correctly.

Performance Guide:

1. Determine the method retail products will be displayed
    a. Shelf, bench, or bed displays:
    b. Special displays:
2. Design display area:
    a. Shelf, bench, or bed displays:
        (1) Select retail products that will be displayed
        (2) Sketch the area where products are to be displayed
            a. Organize products in a logical sequence
            b. Determine the location where specific products will be displayed
        (3) Obtain any needed props
        (4) Clean props and display area
        (5) Mark prices on retail products
    b. Special displays:
        (1) Select specific purpose of display:
            a. Promote holiday sales
            b. Promote seasonal products
            c. Educate how products are used
            d. Promote sale item
        (2) Select a simple theme for display
        (3) Select products that will be included in the display
        (4) Sketch the proposed display
        (5) Select location for display

DUTY: F. PERFORM SALES DUTIES

TASK: 8. Display Retail Products (Continued)

****

(6) Clear the display area of any unwanted items
(7) Clean the display area
(8) Obtain any needed props that will be used to display the detail products

DUTY: F. PERFORM SALES DUTIES

TASK: 9. Set up Exterior Displays

****

Performance Objective: Given materials listed below, set up exterior displays.

Standard: Window must be filled with arrangements and props in order to make people stop, look, come in and buy.

Materials Needed: A Bare Window for an Exterior Display, Seasonal Props, Tools and Supplies.

Enabling Objectives: Be able to use lettering tools.
Knowledge of measuring skills.
Be able to spell correctly.

Performance Guide:

1. Decide what season you are decorating for (Christmas, Valentine's, Wedding, etc.)
   a. Write a plan for the display including:
      (1) The theme or purpose
      (2) A list of the merchandise to be used
      (3) A list of the display accessories to be used
      (4) A list of the show/price cards to be used
      (5) A list of the tools and supplies to be used
2. Draw a sketch of how the display will appear when finished
3. Write a copy and hand letter show/price cards to be used
4. Assemble props for the season (Christmas-packages, trees, branches; Valentines-hearts, flowers (silk), Cupids; weddings-silk bouquets, church items), tools, merchandise, and accessories at work area
5. Using plans and sketch set up the display incorporating the following principles of display:
   a. Balance
   b. Harmony
   c. Color and texture
   d. Scale and proportion
   e. Shape
   f. Focal area

DUTY: F. PERFORM SALES DUTIES

TASK: 9. Set up Exterior Displays (Continued)

****

6. Incorporate the following safety standard in the display:
    a. Design the props to safety support all displayed merchandise
    b. Place all merchandise in the display so that all hazards are avoided
    c. Place all electrical and lighting fixtures so that all safety requirements are met
    d. Use only fire-resistant accessory materials in the display
    e. Avoid placing the display in an area that will block exits and entrances
    f. Avoid having sharp edges and corners in the display
7. Set up the display avoiding the use of lighting or other display techniques that will present a false impression of the merchandise
8. Use only fresh and clean merchandise, props and accessories
9. Build the display around the theme or purpose
10. Use show and price cards that are informative, free of errors, dirt, smudges and ones that follow the purpose or theme of the display
11. To set up the display:
    a. Dismantle the existing window display
    b. Clean the window display area including the glass and floor area
    c. Assemble the merchandise, tools, props and accessories
    d. Set up window display background
    e. Set up the display props
    f. Place merchandise on the display prop and in the window display space
    g. Set up accessory lighting fixtures
    h. Set in show and price cards
    i. Dispose of all debris
    j. Return tools to work area

DUTY: F. PERFORM SALES DUTIES

TASK: 10. Set Up Manufacturer's Display

****

Performance Objective: Given materials listed below, set up a display of a manufacturer's products.

Standard: The finished display must compare with the manufacturer's illustration, all items of merchandise must be price marked, and the display must be set up so that it will not fall under the weight of the merchandise.

Materials Needed: A Manufacturer's Display, Access to Tools and Display Space, Props, Merchandise, and a Marker.

Enabling Objectives: Know how to use lettering tools and measuring skills.
Know how to spell correctly.
Be able to identify products and their uses.

Performance Guide:

1. Read the manufacturer's instructions of setting up the display
2. Assemble the necessary tools
3. Construct the display prop according to manufacturer's instructions at the work area
4. Move the prop to the display area
5. Inspect and assemble the merchandise to be put on display prop
6. Assemble price-marking tools and supplies
7. Clean prop and merchandise
8. Price-mark merchandise as it is placed on prop
9. Dispose of debris
10. Put tools into storage

DUTY: F. PERFORM SALES DUTIES

TASK: 11. Set Up Counter and Table Top Displays

****

Performance Objective: Given materials listed below, set up a counter and table top display with given merchandise.

Standard: Displays must consist of featured merchandise and be constructed in an appealing, attractive way so as to draw the attention of customers.

Materials Needed: Merchandise, Display Space, Display Tools and Equipment, Props, Accessories, and Price Cards.

Enabling Objectives: Know how to use lettering tools and measuring tools.
Know how to spell correctly.
Be able to identify merchandise needed.

Performance Guide:

1. Write a plan for the display including:
    a. The theme or purpose
    b. A list of the merchandise to be used
    c. A list of the display accessories to be used
    d. A list of the show/price cards to be used
    e. A list of the tools and supplies to be used
2. Draw a sketch of how the display will appear when finished
3. Hand letter show/price cards to be used (optional, may be printed)
4. Assemble tools, merchandise, props, and accessories at the work area
5. Set up the display incorporating the following principles of display:
    a. Balance
    b. Harmony
    c. Color and texture
    d. Scale and proportion
    e. Shape
    f. Focal area
    g. Repetition
    h. Unity

****

6. Incorporate the following safety standards in the display:
    a. Design the props to safely support all displayed merchandise
    b. Place all merchandise so that no hazards exist
    c. Place all electrical and lighting fixtures so that all safety requirements are met
    d. Use only fire-resistant accessory materials in the display
    e. Avoid placing display in an area that will block exits or entrances
    f. Avoid having any sharp edges and corners in the display
7. Set up the display which:
    a. Avoids the use of lighting or other display techniques that will present a false impression of the merchandise
    b. Has only fresh and clean merchandise, props and accessories
    c. Has a definite theme or purpose
    d. Includes show and price cards that are informative, free of errors, dirt, smudges and that follow the purpose or theme of the display

DUTY: F. PERFORM SALES DUTIES

TASK: 12. Set up Displays for Salesroom Cooler

****

Performance Objective: Given materials listed below, set up displays for salesroom cooler.

Standard: Displays must consist of featured merchandise and be constructed in an appealing attractive way so as to draw the attention of customers.

Materials Needed: A Salesroom Cooler and Flower Arrangements, Cut Flowers, Props, and Accessories.

Enabling Objectives: Knowledge of color schemes; proportion, and seasonal displays.

Performance Guide:

1. Write a plan for the display including:
   a. The theme or purpose
   b. A list of the merchandise to be used
   c. A list of accessories to be used
   d. A list of show/price cards to be used
   e. A list of the tools and supplies to be used
2. Draw a sketch of how the display will appear when finished
3. Hand letter the show/price cards (optional, may be printed)
4. Assemble tools, merchandise, props and accessories at the work area:
   a. Choose fresh arrangements that will appeal to customers such as:
      (1) Bud vases
      (2) Table arrangements
      (3) Center pieces
      (4) Novelty arrangements
   b. Choose fresh cut flowers that will appeal to customers such as:
      (1) Roses
      (2) Carnations
5. Clean the cooler including inside and outside surfaces

****

6. Set up the display incorporating the following principles of display:
   a. Balance
   b. Harmony
   c. Color
   d. Scale and proportion
   e. Shape
   f. Focal area
   g. Repetition
   h. Unity
7. Avoid crowding either the arrangements or cut flowers
8. Place each arrangement and each cut flower vase in a manner so that each can be seen as a individual item
   a. Design the props to safely support the displayed merchandise
   b. Place all merchandise in the cooler so that no safety hazards exist
9. Set up a display using only fresh and clean props, merchandise and accessories
10. Set up a display that includes show and price cards that are informative, free of errors, dirt and smudges

DUTY: F. PERFORM SALES DUTIES

TASK: 13. Provide Customers With Technical Assistance

****

Performance Objective: Given materials listed below, provide customers with technical assistance.

Standard: Plant material and/or product cost, functions, application, growth habits, care requirements and/or comparisons must be included in sales information given to interested customer. All customer questions must be answered.

Materials Needed: Customer, Products, Product Information, Plant Material Information, Plant Materials.

Enabling Objectives: Must be familiar with customer etiquette. Must be able to identify plants and plant products.

Performance Guide:

1. Greet the customer
2. Offer to help the customer
3. Determine the products or plant materials to which the customer is showing interest
4. Explain pertinent information:
    A. Horticultural Products:
        (1) Cost of product
        (2) Functions of product
        (3) Applications of product
        (4) Comparison of similar products
    B. Plant materials:
        (1) Cost of plant materials
        (2) Plant materials' growth habits
        (3) Plant materials' care requirements
        (4) Comparison of similar plant materials
5. Answer the customers' final choice of products and/or plant materials
6. Determine the customer's questions
7. Ask if customer would like to purchase the selected products and/or plant materials

DUTY: F. PERFORM SALES DUTIES

TASK: 14. Recommend Plant Maintenance Procedures

****

Performance Objective: Given materials listed below, recommend plant maintenance procedures.

Standard: Verbal information will be supplied to the customer on the care of house plants.

Materials Needed: Customer, House Plants.

Enabling Objectives: Must be able to identify plants.

Performance Guide:

1. Identify the plant.
2. Explain to customer what amount of light it needs
3. Give temperature and ventilation tips
4. Explain to client how he can increase the humidity
5. Explain amount and how often to water
6. Recommend to customer a fertilizer and schedule for use
7. Explain to customer how to repot this plant
8. Explain seasonal care of plant
9. Explain pest control

DUTY: F. PERFORM SALES DUTIES

TASK: 15. Process Telephone Orders

****

Performance Objective: Given materials listed below, process telephone orders.

Standard: The description of the customer's order must be correct and complete.

Materials Needed: Order Received, Paper, Pen or Pencil, Telephone.

Enabling Objectives: Must be able to write legibly and spell correctly.
Must know proper telephone etiquette.
Must be able to fill out order form.

Performance Guide:

1. Answer the phone with the business greeting
2. Check with the customer on the product they have in mind
3. Establish time of delivery or pick-up
4. Check on means of payment
5. Make note of the customer's name, credit number, address, directions, and phone number on the order
6. Make note of the product description, quantity and price range
7. Repeat the order to the customer for verification
8. Inform customer of delivery charge (if any)
9. Allow the customer to hang up first
10. Initial the order
11. Date the order
12. File the order with orders to be filled the same day

DUTY: F. PERFORM SALES DUTIES

TASK: 16. Rearrange Display Room

****

Performance Objective: Given materials listed below, rearrange display room.

Standard: All displays must be full; glass surfaces must be clean and polished; merchandise must be replenished, resized, restacked, and fronted. All rules of safety must be followed.

Materials Needed: Displays, Cleaning Equipment, Tools, Materials, Vacuum Cleaner, Rags, Glass Cleaner, Merchandise, and Price Tags.

Enabling Objectives: Understand Safety Rules.

Performance Guide:

1. Assemble cleaning tools and equipment:
   a. Vacuum Cleaner
   b. Dust Rags
   c. Feather duster
   d. Glass cleaner
   e. Rags for cleaning glass
   f. Squeegee
2. Inspect displays and complete the steps necessary to tidy them up:
   a. Dust
   b. Clean glass
   c. Add sufficient merchandise to fill shelves
   d. Restack merchandise
   e. Resize merchandise
   f. Front merchandise
   g. Clean props or fixtures
   h. Replace price tags or labels
   i. Replace merchandise in dust covers
   j. Dust shelves

****

3. Follow safety rules when cleaning:
    a. Avoid bumping display glass with body and tools
    b. Read and follow precautions printed on labels of cleaning agents
    c. Keep cleaning equipment and materials away from customer traffic areas
    d. Immediately wipe up spilled cleaning liquids

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 1. Design and Letter Show Cards

****

Performance Objective: Given materials listed below, design and letter show cards.

Standard: The show card must be well designed, neat, clean and promote customer interest in the merchandise.

Materials Needed: Display and Access to Show Card Lettering Tools and Supplies/Ink or Paint, Ruler, and Pencils.

Enabling Objectives: Be able to measure letters and estimate needed space on poster board.
Be able to spell correctly.
Be able to use a ruler and read measurements.

Performance Guide:

1. Write a plan for the show card including:
    a. The selling features of the item and services
    b. The size and color of the card that is to be used
    c. The style of lettering that is to be used
    d. The copy that is to be lettered on the show card
2. Assemble the tools and materials that will be needed for lettering the show cards at the work area
    a. Lettering ink or paint
    b. Ruler and square
    c. Show card stock
    d. Lettering pens or brushes
    e. Pencils
3. Determine the size of show card that is needed
4. Line off the show card stock with a hard lead pencil
5. Lay out the show card so that it incorporates the principles of design including
    a. Balance
    b. Unity
    c. Harmony
    d. Scale and proportion

****

6. Incorporate the following characteristics when lettering the show cards:
   a. Select a style of lettering that will be easy for customers to read
   b. Write copy that if factual, direct and to the point
   c. Avoid including unnecessary words and distracting material
   d. Select lettering colors that will contrast with the show card stock
   e. Select lettering that is visible and in appropriate contrast to background material
   f. Avoid getting ink or paint smears, fingerprints, cuts and tears on the card
   g. Letter in proportionate size to the display
7. Display the show card in a location on the display where it will promote customer interest in the merchandise or service

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 2. Package Customer Purchase

****

Performance Objective: Given materials listed below, package customer purchase.

Standard: Package the customer purchase carefully.

Materials Needed: Green Floral Tissue, Paper Bags, Flowers, Floral Related Merchandise.

Enabling Objectives: None.

Performance Guide:

For Flowers:

1. Lay out tissue paper (2 sheets)
2. Place flowers on tissue paper and fold paper carefully not to cover flower heads
3. Staple paper closed or use ribbon to tie around center of paper

For Other Materials:

1. Wrap glass items in tissue paper and place carefully in paper bag
2. Place heavier, larger items on bottom of bag
3. For ribbon, cards etc. place in bags suitable to size of items sold

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 3. Process Cash Sales Transactions

****

Performance Objective: Given materials listed below, process cash sales transactions.

Standard: Process cash sales transactions.

Materials Needed: Sales Slip, Currencies, Check, Coins.

Enabling Objectives: Be able to count money and read sales amounts.

Performance Guide:

1. Complete sales slip
2. Announce to the customer how much sales amount is
3. Take payment from customer, count it carefully
4. If given exact change, put money in proper place and give customer the receipt
5. If given more than exact amount, lay on top of register (do not put in drawer yet)
6. Count out exact change
7. Count change back to customer and give receipt
8. Place currency into drawer and close cash drawer
9. Thank customer

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 4. Process Charge Card Sales Transaction

****

Performance Objective: Given materials listed below, process charge card sales transaction.

Standard: Process a charge card sales transaction.

Materials Needed: Charge Slips, Charge Card Machine, Charge Card, Pen/Pencil.

Enabling Objectives: None.

Performance Guide:

1. Ask the customer whether the sale will be cash or charge
2. Charge card should be identified as one company accepts
3. Follow company rules in accepting charge cards and identifying customers
4. Put charge card and slip into machine to put information onto slip
5. Give card back to customers
6. Fill out written part of charge slip
7. Have customer sign slip
8. Give customer their copy of slip and a receipt
9. Put store copies away properly
10. Thank customer

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 5. Gift Wrap Purchases

****

Performance Objective: Given materials listed below, gift wrap purchases.

Standard: The finished packages must exhibit color coordinated wrap, ribbon and bows; wrap must be taped securely fastened to the packages and all packages must be free of smudges.

Materials Needed: Merchandise, Gift Wrap, ribbon, Scissors, Tie-ons, Tissue, Tools and Equipment.

Enabling Objectives: None.

Performance Guide:

1. Assemble tools and supplies at the work area:
    a. Scissors (paper and ribbon)
    b. Cellophane tape
    c. Ribbon
    d. Gift wrap paper
    e. Tie-ons
2. Remove all price tags from the merchandise
3. Place tissue liner in box
4. Place merchandise in gift box and pack tissue around so it won't rattle around and break
5. Cut a piece of wrapping paper so that it will be approximately twice the length of the largest dimension of the box so that it extends over both ends of the box slightly more than half the depth of the box
6. Turn the box upside down and center it over the wrapping paper
7. Pull the sides of the paper over the box and trim the overlap so that it can be turned under approximately one-fourth of an inch
8. Turn the overlap under one-fourth of an inch
9. Tape the overlap with cellophane tape
10. Fold the sides, ends, and the top flap down and the bottom flap up (bottom flap can be turned under to form a neat closure)
11. Tape the bottom flap of the wrapping
12. Tie ribbon around box
13. Tie bow and fasten to box
14. Fasten novelty accessory to package (optional)

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 6. Label and Price Products

****

Performance Objective: Given materials listed below, label and price products.

Standard: Label and price products and plants on display.

Materials Needed: Plants and Products, Labels and Tags, Pen, Labelling Gun.

Enabling Objectives: Be able to identify plants and products.
Be able to write legibly.
Be able to read pricing list.

Performance Guide:

1. Determine what labelling method would be better for product or plant
2. Print common and variety names on labels for plants
3. Price each item
4. Attach label to plant or product so it is visible and secure

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 7. Update Prices on Merchandise

****

Performance Objective: Given materials listed below, update prices on merchandise.

Standard: Update prices on Merchandise.

Materials Needed: Merchandise, Price List, Inventory List.

Enabling Objectives: Be able to read price lists and inventory lists.

Performance Guide:

1. Obtain price list
2. Obtain inventory listing of current products
3. Add items appearing on inventory listing but not on the price list
4. Eliminate items appearing in the price list but not listed in inventory
5. Check price of each item on listing against posted or projected price for the same items
6. correct any inconsistencies, by marking out the old price and adding the current price
7. Reprice shelf items

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 8. Maintain Customer File System and Accounts

****

Performance Objective: Given materials listed below, maintain customer file system and accounts.

Standard: Record customer's charge or payment in a file.

Materials Needed: Customer, File Card.

Enabling Objectives: Be able to alphabetize.
Be able to add and subtract dollar amounts.

Performance Guide:

1. Take the customer's name, address, and phone number
2. Check on customer's credit rating
3. Locate ledger card under the customer's last name in the accounts receivable file
4. Record payment or charge made
5. Deduct a payment/add a charge, under amount due column
6. Give customer a receipt for either payment or charge

DUTY: G. PERFORM SALES RELATED DUTIES

TASK: 9. Prepare Advertisements

****

Performance Objective: Given materials listed below, prepare advertisements.

Standard: Advertising promotions must be scheduled objectives of the campaign and reach the desired population. Budget restraints, advertising costs, and effectiveness must be used when media selecting media form.

Materials Needed: Advertising Budget, Cost Estimates of Media Forms.

Enabling Objectives: Be able to understand budgeting.

Performance Guide:

1. Determine the customer population that the advertising program is attempting to reach
2. Schedule advertising promotions according to the specified needs of the horticultural business
3. Obtain the annual advertising budget figures
4. Determine specific objectives for particular advertising promotions
5. Determine the media forms most suitable for designated population:
    a. Sign
    b. Radio
    c. Television
    d. Newspaper
    e. Professional journal
    f. Telephone book
6. Select forms of media to use when advertising:
    a. Consider budget restraints
    b. consider cost of media forms
    c. Study effectiveness of each media form
7. Schedule advertising promotions during the time frame that will reach the largest percentage of designated population

DUTY: H. MANAGING THE BUSINESS

TASK: 1. Maintain Business Records

****

Performance Objective: Given the materials listed below, maintain business records.

Standard: All business records will be kept neat and up to date.

Materials Needed: Various Business Records, Pen or Pencil, Computer.

Enabling Objectives: Know how to operate computer.
Know how to read and interpret various business records.

Performance Guide:

1. Compile and organize business records used by the agribusiness
2. Review each record to identify needed information and purpose
3. Complete each business record as required
4. File business forms as required
5. If computerized, record information in appropriate file and save on hard or floppy disk. Backup as necessary

DUTY: H. MANAGING THE BUSINESS

TASK: 2. Prepare Financial Statements

****

Performance Objective: Given the materials listed below, prepare financial statements.

Standard: Financial statements will be prepared to determine whether available funds will be sufficient to meet expenses throughout the year.

Materials Needed: Summaries of Financial Statements, Summary of Business Receipts and Expenses.

Enabling Objectives: Know how to read and interpret financial reports.
Have basic math skills.
Read and comprehend written communication and information.

Performance Guide:

1. Select appropriate style and format for financial statements which will best fit the agribusiness needs
2. Assemble information needed to complete the financial statements
3. Review procedures for calculating and recording net worth statements
4. Complete net worth statement identifying current, intermediate, and long-term financial position
5. Review procedures for calculating and recording profit and loss statements
6. Complete profit and loss statements by determining cash sales, capital gains or losses, inventory change, and expenses
7. Review procedures for calculating and recording cash flow statements
8. Complete cash flow statement by determining assets and liabilities for current, intermediate, and fixed resources

DUTY: H. MANAGING THE BUSINESS

TASK: 3. Interpret Financial Statements

****

Performance Objective: Given the materials listed below, interpret financial statements.

Standard: The financial statements of the agribusiness will be interpreted to determine its financial health.

Materials Needed: Summaries of Financial Statements.

Enabling Objectives: Know how to read and interpret financial reports.
Have basic math skills.
Read and comprehend written communication and information.

Performance Guide:

1. Calculate the working capital ratios:
    a. Current ratio - divide total current assets by current liabilities. Rule-of-thumb is a ratio of 1.5 to 2.0 as a minimum to be maintained
    b. Modified quick ratio - cash + merchandise inventory + product inventory + estimated receivables to be collected within 30 days + marketable securities divided by current liabilities due within 30 days. Rule-of-thumb is a ratio of 1.2 to 1.5 as a minimum to be maintained
2. Calculate activity ratios:
    a. Merchandise turnover - divide the annual sales of merchandise by the average monthly inventory of merchandise. When ratio is declining from previous periods, it means that a build-up of inventories is occurring
    b. Net receivables divided by annual sales - indicates the share of the year's sales that remains uncollected. It is an indicator of the credit management program as it compares to previous years
3. Determine standard measures of analyses for efficiency of production using cost of production/unit, volume of business, total business earnings, returns to labor, capital, management, returns to capital and management, and returns to capital

DUTY: H. MANAGING THE BUSINESS

TASK: 4. Complete The Business Loan Application Process

****

Performance Objective: Given the materials listed below, complete the business loan application process.

Standard: A loan application process will be developed which will meet the diverse credit needs of the agribusiness.

Materials Needed: Agricultural Credit Publications, Budget Summary Sheets.

Enabling Objectives: Know how to read and interpret financial reports.
Have basic math skills.
Read and comprehend written communication and information.

Performance Guide:

1. Review sources of credit available from private, cooperative, and governmental channels
2. Review the written records or documents used in lending contracts, such as promissory notes, secured transactions, warehouse receipts, bills of lading, and releases and satisfactions
3. Present prepared financial budget summaries for lender to review
4. Prepare history of past earnings, projected budgets, and cash flows to determine repayment capacity
5. Prepare plan for repayment of loan
6. Prepare statement detailing purpose of loan
7. Determine final provider of lending service
8. Identify security collateral for the loan
9. Negotiate credit

DUTY: H. MANAGING THE BUSINESS

TASK: 5. Develop Credit Plan

* * *

Performance Objective: Given materials listed below, develop and negotiate a credit plan for the business.

Standard: Instructor must be satisfied that amount of credit is justified and loan repayment is within cash flow ability of the business.

Materials Needed: Credit Publications, Calculator, Cash Flow Statement, Comparative Trend Analysis Sheet, Net Worth Statement, Profit/Loss Statement.

Enabling Objectives: Know how to complete various financial statements.

Performance Guide:

1. Determine need for credit plan for business
2. Complete the following financial statements:
    a. Net Worth Statement
    b. Profit/Loss
    c. Cash Flow Statements
    d. Comparative Standard Analysis Sheet
3. Identify items for which credit will be needed
4. Assess providers of lending services
5. Select provider of lending service
6. Develop credit plan for the business
7. Negotiate credit

DUTY: H. MANAGING THE BUSINESS

TASK: 6. Prepare Budget

****

Performance Objective: Given materials listed below, prepare a budget for the business.

Standard: The budget will show total income, total expenditures and the cash difference without error.

Materials Needed: Current Financial Data to Include Source(s) and Amounts of: Operating Income, Capital Sales, Non-Business Income, Operating Expense, Capital Expenditures, Other Expenditures, Calculator.

Enabling Objectives: Know how to read and interpret business records. Know how to use calculator.

Performance Guide:

NOTE: Include only cash transactions that have occurred

1. Enter source(s) and amounts of operating income
2. Total operating income
3. Enter source(s) and amounts of capital sales
4. Total capital sales
5. Enter source(s) and amounts of non-business income
6. Total non-business income
7. Enter source(s) and amounts of operating expenses
8. Total operating expenses
9. Enter source(s) and amounts of capital expenditures
10. Total capital expenditures
11. Enter source(s) and amounts of other expenditures
12. Total other expenditures
13. Total all income
14. Total all expenditures
15. Calculate each difference between total income and total expenditures

DUTY: H. MANAGING THE BUSINESS

TASK: 7. Prepare Tax Statements

****

Performance Objective: Given materials listed below, completed federal tax schedules, and federal income tax form 1040, complete federal income tax form 1040.

Standard: The completed form must include all income information of the business and the tax due/refund amount must be correct.

Materials Needed: Tax Publications, Calculator, Completed Federal Income Tax Forms and Schedules, Tax Guide, Record Books.

Enabling Objectives: Know how to read and interpret business records.

Performance Objective:

1. Obtain completed federal income tax schedules
2. Transfer bottom line figures from:
    a. income or loss schedule
    b. capital gains or loss schedule
    c. investment credit schedule
    d. FICA schedule
3. Enter "other" income in appropriate boxes
4. Calculate total income and deductions
5. Calculate taxable income
6. Compute tax due (or refund)
7. Record information in correct spaces on tax forms
8. Attach W-2 forms to federal income tax form
9. Send completed tax form to appropriate tax office with supportive materials as required

DUTY: H. MANAGING THE BUSINESS

TASK: 8. Prepare Depreciation Schedule

****

Performance Objective: Given materials listed below, prepare a depreciation schedule.

Standard: Instructor must confirm that calculations and recordings are accurate and reflect the depreciation method most advantageous to the business for the current year.

Materials Needed: Depreciation Publications, Calculator, IRS Income Tax Guide, IRS Publications, Microcomputer, Depreciation Software Programs.

Enabling Objectives: Know how to operate computer and software. Know different methods of depreciation.

Performance Objective:

1. Define terms in calculating depreciation
2. Determine depreciation records needed for business
3. List available depreciation methods
4. Compare advantages and disadvantages of each method
5. Select most advantageous method
6. Using selected method, calculate and record depreciation
7. Using selected computer software program, calculate and record depreciation

DUTY: H. MANAGING THE BUSINESS

TASK: 9. Calculate Net Worth

****

Performance Objective: Given materials listed below, calculate and record net worth of business.

Standard: Calculations and recordings must measure net worth gain from productivity on a cost basis and net worth at market value.

Materials Needed: Calculator, Complete Business Financial Records, Inventories.

Enabling Objectives: Know how to use calculator.
Know how to read and interpret financial records.

Performance Objective:

1. Assess assets
2. Determine liabilities
3. Determine net worth
4. Record net worth

DUTY: H. MANAGING THE BUSINESS

TASK: 10. Orient New Employees

****

Performance Objective: Given materials listed below, orient new employees.

Standard: Orientation must accurately present all relevant regulations, policies, and responsibilities pertaining to position.

Materials Needed: Business Regulations, Outline of Duties and Tasks Required of the Position.

Enabling Objectives: Know the business policies and regulations.

Performance Objective:

1. Greet the new employees
2. Make introductions
3. Discuss business regulations and employee responsibilities concerning such items as the chain of supervision, completion of time-sheets, maintenance of security, compliance with personnel department's processing procedures, and the receipt of employee benefits
4. Outline specific duties and typical tasks associated with the position
5. Answer any specific questions from new employees

DUTY: H. MANAGING THE BUSINESS

TASK: 11. Plan Work Schedules

****

Performance Objective: Given materials listed below, ability of available labor, labor timetable, tax assignment, and supervision plan, develop employee work schedules.

Standard: The work schedule must provide the labor and time allotment for task performance.

Materials Needed: Calender, Work Record Book.

Enabling Objectives: None.

Performance Objective:

1. Assess amount and ability of available labor
2. Assess times and season for work assignment
   a. Designing arrangements
   b. Taking care of plants
   c. Holidays, vacations, etc.
   d. unplanned absences (emergencies etc.)
3. Assess minimum and maximum labor needs
4. Assign responsibility for work tasks

DUTY: H. MANAGING THE BUSINESS

TASK: 12. Determine Labor Needs

****

Performance Objective: Given materials listed below, assess labor needs, and develop plan for amount of labor needed.

Standard: The plan for labor supply must meet the labor needs of the business.

Materials Needed: Bulletins, Budget Materials, Complete Management Informational Resources, Management Service Publications.

Enabling Objectives: Know how to read and interpret bulletins and publications.

Performance Objective:

1. Assess amount of labor required
2. Assess available labor force
3. Study feasibility of additional mechanization to extend labor supply
4. Study feasibility of altering the business to adjust to labor supply
5. Determine peak work loads
6. Determine labor requirements for the business

/

DUTY: H. MANAGING THE BUSINESS

TASK: 13. Train Workers Using Demonstration-Performance Method

****

Performance Objective: Given the materials listed below, train workers using the demonstration-performance method.

Standard: Upon completion, the worker must be able to perform each task assigned to the minimum competence specified.

Materials Needed: Description of a Worker's Background and Experience, Itemized Training Required, Agriculture Bulletins, Farmer's Tax Guide, Complete Farm Management Information Resource, Current Agriculture Periodicals and Magazines.

Enabling Objectives: Knowledge of the specific jobs to be performed the employee.

Performance Guide:

1. Assess worker's background and experience
2. Select task for which skill is lacking
3. Demonstrate the task
4. Have worker demonstrate same task
5. Evaluate worker's performance
6. Retrain where needed
7. Repeat procedure for remainder of tasks

DUTY: H. MANAGING THE BUSINESS

TASK: 14. Evaluate Employee Performance

****

Performance Objective: Given materials listed below, evaluate employee performance.

Standard: Evaluation form must be completed, signed by evaluator and employee, and processed and filed according to company's guidelines.

Materials Needed: Employee, Employee's File, Position Description, Employee Evaluation Form.

Enabling Objectives: Know how to fill out an evaluation form.
Know how to recall employee's performance of tasks.
Know how to recall company standards.

Performance Objective:

1. Review employee's file for memos, written warnings, and evidence of continuing education
2. Obtain a company evaluation form
3. Record the tasks that must be performed by the employee on the evaluation form
4. Rate employee's performance of specified tasks according to company's standards:
    a. average
    b. above average
    c. below average
5. Record any comments and recommendations for employee improvement
6. Discuss evaluation with the employee
7. Sign evaluation
8. Request the employee's signature
9. Give the employee a copy of the completed evaluation
10. File a copy of the completed evaluation in the departmental files
11. Submit the completed evaluation to appropriate person/department

DUTY: H. MANAGING THE BUSINESS

TASK: 15. Prepare Reports

****

Performance Objective: Given materials listed below, prepare reports.

Standard: Reports should communicate intended message in a concise style that conforms to standard rules of grammar and spelling.

Materials Needed: Specified Content Information, Established Format.

Enabling Objectives: Know how to spell.
Know how to use proper grammar.

Performance Objective:

1. List the points to be communicated
2. Organize the information to be communicated into paragraphs
3. Write rough draft
4. Edit and revise rough draft
5. Proofread and revise as necessary
6. Present or send report

DUTY: H. MANAGING THE BUSINESS

TASK: 16. Develop Marketing Plan

****

Performance Objective: Given materials listed below, develop a marketing plan.

Standard: The marketing plan developed must yield the highest possible return for the business.

Materials Needed: Marketing Publications, Calculator.

Enabling Objectives: Know how to use a calculator.
Know how to read and interpret marketing publications.

Performance Objective:

1. Assess marketing strategies (futures, etc.)
2. Identify strategies appropriate to business
3. Select appropriate marketing plan
4. Select number of items to be marketed
5. Identify available markets
6. Identify most profitable market
7. Arrange for transportation of items to market

DUTY: H. MANAGING THE BUSINESS

TASK: 17. Maintain Inventory Records

****

Performance Objective: Given the materials listed below, maintain inventory records.

Standard: The inventory record will be adjusted daily for sales of items and purchases of items as they are bought and sold by the agribusiness.

Materials Needed: Perpetual Inventory Summary Sheets, Merchandise/Products in Inventory.

Enabling Objectives: Write legibly.
Basic knowledge of math skills.

Performance Guide:

1. Obtain and review a copy of a perpetual inventory record sheet
2. Complete the record sheet by entering:
    a. name of item being inventoried
    b. item number
    c. stocking level
3. Record items received by the business during the day on the proper inventory record sheet
4. Record items sold by the business during the day on the proper inventory record sheet
5. Record items removed because of obsolescence which were listed on the inventory sheets
6. Record in the balance column the amount of the item on hand at the end of the business day

DUTY: H. MANAGING THE BUSINESS

TASK: 18. Select Computer Software for Records and Reports

****

Performance Objective: Given the materials listed below, select computer software for records and reports.

Standard: Software selected for managing records and reports must be able to analyze the probable consequences of different courses of action.

Materials Needed: Financial Reports, Record Books, List of Computer Software Vendors.

Enabling Objectives: Knowledge of computers.
Basic communications skills.

Performance Guide:

1. Develop an outline describing the agribusiness information system in the areas of:
    a. financial accounting
    b. production records
    c. marketing
    d. financial planning
2. List the jobs the computer will be used for
3. Develop a detailed job description for each application in keeping business records and reports
4. Review software programs used for records and reports which include:
    a. spread-sheet programs
    b. data base management programs
    c. graphics programs
    d. word processing programs
5. List and review the quality of vendors selling software
6. Select software that best matches the computer system to the business needs

DUTY: H. MANAGING THE BUSINESS

TASK: 19. Conduct Periodic Inspection of Merchandise

****

Performance Objective: Given the materials listed below, conduct a periodic inspection of merchandise for sale.

Standard: The merchandise in inventory will be periodically inspected for quality and quantity to permit the agribusiness to effectively merchandise the products and yet keep the quantity small enough to keep overhead costs reasonable.

Materials Needed: Inventory Lists, Stockroom Invoices.

Enabling Objectives: Know basic math skills.
Be able to identify different types of merchandise offered by the business.

Performance Guide:

1. Check count of merchandise received from stockroom:
    a. Read stockroom invoice for quantity, size, color, etc., requested
    b. Check all merchandise received to determine that correct price is recorded
2. Check the condition of the merchandise for damage and make record of inspection date and findings
3. Check inventory levels to determine when and how much to purchase to maintain reasonable inventory levels
4. Record merchandise/products that are not selling and inform appropriate personnel
5. Place orders for merchandise/products enough ahead of time so there will not be a shortage between ordering and delivery
6. Arrange storage area to permit the handling of stock with the least amount of effort and in such a way that stock can be easily found, quantity determined and recorded, and removed if necessary

DUTY: H. MANAGING THE BUSINESS

TASK: 20. Conduct Inventory of Merchandise

****

Performance Objective: Given the materials listed below, conduct an inventory of merchandise for sale.

Standard: Management personnel will be able to determine what and how much stock is on hand at a given point in time.

Materials Needed: Inventory Sheets.

Enabling Objectives: Know basic math skills.
Be able to identify different types of merchandise offered by the business.

Performance Guide:

1. Close the department to customers
2. Post all daily sales tickets to bring the inventory up to date
3. Clean up the department and place all loose merchandise/products in their proper areas
4. Obtain inventory sheets and review instructions on how to properly complete the forms
5. Print all entries neatly and legibly
6. Do not erase - draw a line through all errors and rewrite
7. Check merchandise for condition. Count only that which is salable. Separate any that are not salable
8. Count and record every item
9. Keep inventories separate for different departments
10. Compute totals and report them to management

DUTY: I. APPLYING SAFETY PRACTICES

TASK: 1. Apply Basic Emergency First Aid Techniques

****

Performance Objective: Given materials listed below, apply basic emergency first aid techniques.

Standard: Give first aid to the victim so the lasting results of injury is minimized and life is preserved.

Materials Needed: A Cool Head, Blankets, Information on what Happened, Emergency Medical Information, Protect Victim from Unnecessary Manipulation and Disturbance.

Enabling Objectives: Be familiar with basic first aid techniques.

Performance Guide:

1. Do not move the victim unless for safety
2. Make victim comfortable, avoid chilling
3. Try to determine the cause of injury
4. Apply pressure for bleeding
5. Clear obstructed air passages
6. Reassure victim that everything is going to be ok
7. Identify the victim
8. Loosen constricting clothing
9. Note victim's general appearance

DUTY: I. APPLYING SAFETY PRACTICES

TASK: 2. Use Fire Extinguisher

****

Performance Objective: Given materials listed below, use fire extinguisher.

Standard: Identify correct extinguisher needed and be able to facilitate use.

Materials Needed: Fire Extinguisher, Person from Fire Department to Demonstrate Various Methods and Types.

Enabling Objectives: Know location of fire extinguisher. Know fire safety procedures.

Performance Guide:

1. Have fireman demonstrate different types of extinguishers and explain uses
2. Give a fire situation
3. Student must choose correct extinguisher
4. Have student verbally demonstrate how extinguisher would be used
5. Follow up with safety precautions

DUTY: I. APPLYING SAFETY PRACTICES

TASK: 3. Administer Cardiopulmonary Resuscitation

****

Performance Objective: Given materials listed below, administer cardiopulmonary resuscitation.

Standard: Give CPR and have periodic retraining.

Materials Needed: Person with CPR Skills, Person Needing CPR Assistance.

Enabling Objectives: Must be certified in CPR.

Performance Guide:

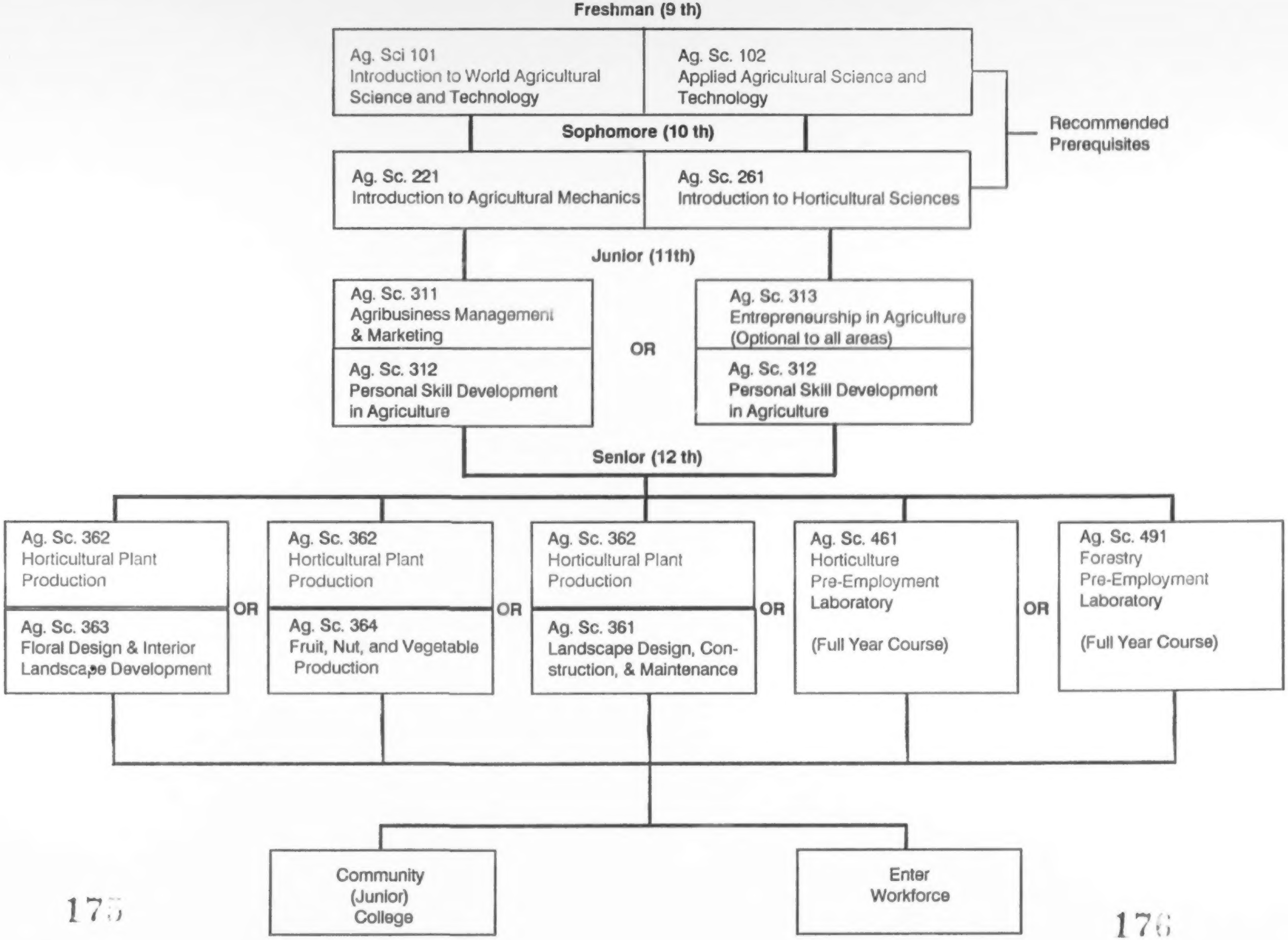
1. Do not move the victim unless for safety
2. Make victim comfortable
3. Avoid chilling
4. Try to determine the cause of injury
5. Apply pressure for bleeding
6. Clear obstructed air passages
7. Reassure the victim that everything is going to be ok
8. Identify the victim
9. Loosen constricting clothing
10. Note victim's general appearance

V. RECOMMENDED SECONDARY AND POSTSECONDARY COURSE OPTIONS FLOWCHART

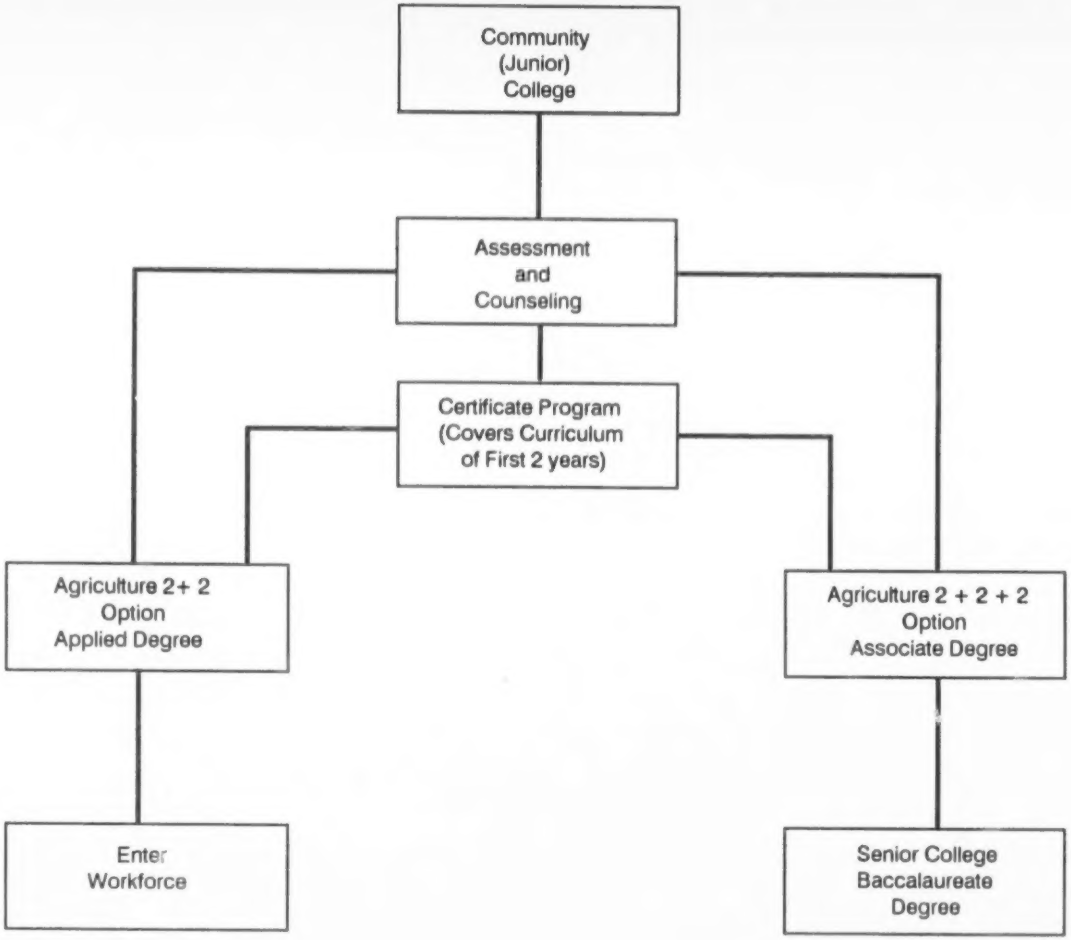
The following flowcharts show the possible courses and routes that a student may take in pursuing a particular 2+2 articulated program.

These charts are examples to be used by other secondary and postsecondary institutions in establishing their own agricultural 2+2 curriculum.

Agriculture 2 + 2 + 2
Horticulture/ Plant Science Option


Freshman (9 th)
Ag. Sci 101
Introduction to World Agricultural Science and Technology
Ag. Sc. 102
Applied Agricultural Science and Technology
Sophomore (10 th)
Ag. Sc. 221
Introduction to Agricultural Mechanics
Ag. Sc. 261
Introduction to Horticultural Sciences
Recommended Prerequisites
Junior (11th)
Ag. Sc. 311
Agribusiness Management & Marketing
Ag. Sc. 312
Personal Skill Development in Agriculture
OR
Ag. Sc. 313
Entrepreneurship in Agriculture (Optional to all areas)
Ag. Sc. 312
Personal Skill Development in Agriculture
Senior (12 th)
Ag. Sc. 362
Horticultural Plant Production
Ag. Sc. 363
Floral Design & Interior Landscape Development
OR
Ag. Sc. 362
Horticultural Plant Production
Ag. Sc. 364
Fruit, Nut, and Vegetable Production
OR
Ag. Sc. 362
Horticultural Plant Production
Ag. Sc. 361
Landscape Design, Construction, & Maintenance
OR
Ag. Sc. 461
Horticulture Pre-Employment Laboratory
(Full Year Course)
OR
Ag. Sc. 491
Forestry Pre-Employment Laboratory
(Full Year Course)
Community (Junior) College
Enter Workforce

Agriculture 2 + 2 + 2
Horticulture/Plant Science Option
Continued


Community (Junior) College
Assessment and Counseling
Certificate Program (Covers Curriculum of First 2 years)
Agriculture 2+ 2 Option Applied Degree
Agriculture 2 + 2 + 2 Option Associate Degree
Enter Workforce
Senior College Baccalaureate Degree

VI. RECOMMENDED STUDENT PREREQUISITES

Secondary:

The following secondary plans include both the academic and agricultural recommendations for a student who is interested in pursuing an articulated 2 + 2 agricultural program.

Included are the recommended courses beginning with the freshman year and continuing through grade 12. Students on the regular, advanced, or honors tract may follow this plan; however, students on the regular tract must take some higher math and science courses than may be recommended otherwise.

These plans are based upon a seven period day and the only difference in the three is in the area of Physical Education since choosing one of these three options may affect the courses you would have time to take otherwise.

Postsecondary

These postsecondary plans include both the academic and agricultural course recommendations for the associate degree or the applied degree for a student who is interested in continuing the 2 + 2 agricultural program.

ARTICULATED CURRICULA FOR AGRISCIENCE TECHNOLOGY

High School Horticulture - Retail Florist Management Option

	HIGH SCHOOL			
SUBJECT	FRESHMAN	SOPHOMORE	JUNIOR	SENIOR
English	English I Regular or Honors *1	English II Regular or Honors *1	English III Regular or Honors *1	English IV Regular or Honors *1
Mathematics	Algebra I	Geometry	Algebra II	Pre-Calculus Honors *1
Science	Biology I	Physical Science	Chemistry I Regular or Honors *1	
Social Studies	United States History Reg. or Honors *1	World Geography	World History	U.S. Govt. & Free Enterprise
Physical Education	Physical Education / Health	Physical Education		
Agriculture Core	Ag. Sc. 101 Ag. Sc. 102			
Agriculture Core		Ag. Sc. 221 Ag. Sc. 261		
Agriculture Specialty			Ag. Sc. 311 Ag. Sc. 312	Ag. Sc. 461 (Some Schools)
Agriculture Specialty				Ag. Sc. 362 Ag. Sc. 363
Elective	F. A. or Rec. Elective *3	F. A. or Rec. Elective *3	Recommended Elective *4	Recommended Elective *4
Elective			Recommended Elective *4	Computer Elective *2

*1. Students enrolled in the honors program would need to take at least 5 of these courses

*2. Computer course can be selected from the following:
Computer Math
Business Information Processing

*3. Fine Arts Elective can be selected from the following:
(1 credit required for honors and advanced)

Theatre Arts
Introductory Speech
Music History & Literature
Band I-IV (Fall counts for P.E. credit, Spring counts as Fine Arts credit)

*4. Recommended Electives can be selected from the following:

Journalism
Advanced Journalism

Spanish I (Students in honors need to take these
Spanish II *1 courses but regular students may also)

Personal Business Management
Typing I
Record Keeping
Accounting
Advanced Accounting
Introduction to Computer Programming
Psychology
Sociology

ARTICULATED CURRICULA FOR AGRISCIENCE TECHNOLOGY

High School Horticulture - Retail Florist Management Option

	HIGH SCHOOL			
SUBJECT	FRESHMAN	SOPHOMORE	JUNIOR	SENIOR
English	English I Regular or Honors *1	English II Regular or Honors *1	English III Regular or Honors *1	English IV Regular or Honors *1
Mathematics	Algebra I	Geometry	Algebra II	Pre-Calculus Honors *1
Science	Biology I	Physical Science	Chemistry I Regular or Honors *1	
Social Studies	United States History Reg. or Honors *1	World Geography	World History	U.S. Govt. & Free Enterprise
Physical Education	Band I	Band II	Band III	Band IV
Agriculture Core	Ag. Sc. 101 Ag. Sc. 102			
Agriculture Core		Ag. Sc. 221 Ag. Sc. 261		
Agriculture Specialty			Ag. Sc. 311 Ag. Sc. 312	Ag. Sc. 461 (Some Schools)
Agriculture Specialty				Ag. Sc. 362 Ag. Sc. 363
Elective	F. A. or Rec. Elective *3	F. A. or Rec. Elective *3	Recommended Elective *4	Recommended Elective *4
Elective	Health		Recommended Elective *4	Computer Elective *2

*1. Students enrolled in the honors program would need to take at least 5 of these courses

*2. Computer course can be selected from the following:
Computer Math
Business Information Processing

*3. Fine Arts Elective can be selected from the following:
(1 credit required for honors and advanced)

Theatre Arts
Introductory Speech
Music History & Literature
Band I-IV (Fall counts for P.E. credit, Spring counts as Fine Arts credit)

*4. Recommended Electives can be selected from the following:

Journalism
Advanced Journalism

Spanish I (Students in honors need to take these
Spanish II *1 courses but regular students may also)

Personal Business Management
Typing I
Record Keeping
Accounting
Advanced Accounting
Introduction to Computer Programming
Psychology
Sociology

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ARTICULATED CURRICULA FOR AGRISCIENCE TECHNOLOGY

High School Horticulture - Retail Florist Management Option

	HIGH SCHOOL			
SUBJECT	FRESHMAN	SOPHOMORE	JUNIOR	SENIOR
English	English I Regular or Honors *1	English II Regular or Honors *1	English III Regular or Honors *1	English IV Regular or Honors *1
Mathematics	Algebra I	Geometry	Algebra II	Pre-Calculus Honors *1
Science	Biology I	Physical Science	Chemistry I Regular or Honors *1	
Social Studies	United States History Reg. or Honors *1	World Geography	World History	U.S. Govt. & Free Enterprise
Physical Education	Athletics	Athletics	Athletics	Athletics
Agriculture Core	Ag. Sc. 101 Ag. Sc. 102			
Agriculture Core		Ag. Sc. 221 Ag. Sc. 261		
Agriculture Specialty			Ag. Sc. 311 Ag. Sc. 312	Ag. Sc. 461 (Some Schools)
Agriculture Specialty				Ag. Sc. 362 Ag. Sc. 363
Elective	F. A. or Rec. Elective *3	F. A. or Rec. Elective *3	Recommended Elective *4	Recommended Elective *4
Elective	Health		Recommended Elective *4	Computer Elective *2

*1. Students enrolled in the honors program would need to take at least 5 of these courses

*2. Computer course can be selected from the following:
Computer Math
Business Information Processing

*3. Fine Arts Elective can be selected from the following:
(1 credit required for honors and advanced)

Theatre Arts
Introductory Speech
Music History & Literature
Band I-IV (Fall counts for P.E. credit, Spring counts as Fine Arts credit)

*4. Recommended Electives can be selected from the following:

Journalism
Advanced Journalism

Spanish I (Students in honors need to take these
Spanish II *1 courses but regular students may also)

Personal Business Management
Typing I
Record Keeping
Accounting
Advanced Accounting
Introduction to Computer Programming
Psychology
Sociology

ARTICULATED CURRICULA FOR AGRISCIENCE TECHNOLOGY

Palo Alto College Horticultural Technology Option - Associate of Science (Retail Florist Management)

	POSTSECONDARY			
SUBJECT	FRESHMAN A	FRESHMAN B	SOPHOMORE A	SOPHOMORE B
English	ENG 1301 3	ENG 1302 3	ENG Lit. Elec. 3	SPE 1305 3
Mathematics	MATH 1310 3	MATH 1314 3		
Science	BIO 1406 4			
Science		CHEM 1401 4		
Social Studies	HIST 1315 3	HIST 1316 3	GOVT 1305 3	GOVT 1306 3
Physical Education			HPER 1	HPER 1
Agriculture Core	AGRI 1101 1		HORT 1312 3	HORT 2330 3
Agriculture Specialty	HORT 2315 3	HORT 2333 3	HORT 2317 3	HORT 2402 4
Agriculture Specialty				
Elective		PHIL 1302 3	CSCI 1306 3	PSY. 1301 3
Total Hours	17	19	16	17

Basic Courses

ENG 1301 - Freshman Composition I
ENG 1302 - Freshman Composition II
ENG 2310, 2313, or 2315 Literature
CSCI 1306 - Computer Literacy
MATH 1310 - College Algebra
MATH 1314 - Calculus for Business
PSY 1301 - Introduction to Psychology
SPE 1305 - Fundamentals of Speech
PHIL 1302 - Logic
HIST 1315 - History of the United States I
HIST 1316 - History of the United States II
GOVT 1305 - Introduction to American Government
GOVT 1306 - Introduction to Texas Government
BIO 1406 - General Botany
CHEM 1401 - General Chemistry I

Agriculture Course Offerings

AGRI 1101 - Introduction to Agriculture
HORT 1312 - Plant Propagation
HORT 2315 - Plant Identification II - Herbaceous and Exotic Plants
HORT 2317 - Managing Agricultural Businesses
HORT 2330 - Interiorscape Design
HORT 2333 - Selection and Maintenance of Indoor Plants
HORT 2402 - Pests and Pesticides

ARTICULATED CURRICULA FOR AGRISCIENCE TECHNOLOGY

Palo Alto College Horticultural Technology Option - Associate of Applied Science (Retail Florist Management)

	POSTSECONDARY			
SUBJECT	FRESHMAN A	FRESHMAN B	SOPHOMORE A	SOPHOMORE B
English	ENG 1301 3	ENG 1302 3	SPE 1305 3	
Mathematics		MATH 1308 3		
Agriculture Core	AGRI 1101 1	HORT 2333 3	HORT 2330 3	HORT 2340 3
Agriculture Core	HORT 2317 3	HORT 1308 3	HORT 2302 3	HORT 2350 3
Agriculture Core	HORT 1307 3	HORT 1312 3	HORT 2315 3	
Management	MGT 1301 3	MGT 1303 3	MGT 2303 3	MGT 2315 3
Art	ART 1301 3			ART 1302 3
Agriculture Specialty				
Agriculture Specialty				
Elective			CSCI 1306 3	PSY 1301 3
Total Hours	16	18	18	15

Basic Courses

ENG 1301 - Freshman Composition I
ENG 1302 - Freshman Composition II
CSCI 1306 - Computer Literacy
MATH 1308 - Math of Finance
PSY 1301 - Introduction to Psychology
SPE 1305 - Fundamentals of Speech
BA 2311 - Principles of Accounting

Agriculture Course Offerings

AGRI 1101 - Introduction to Agriculture
HORT 1307 - Soils and Fertilizers
HORT 1308 - Plant Physiology and Diseases
HORT 1312 - Plant Propagation
HORT 2302 - Pests and Pesticides
HORT 2315 - Plant Identification II - Herbaceous and Exotic Plants
HORT 2317 - Managing Agricultural Businesses
HORT 2330 - Interiorscape Design
HORT 2333 - Selection and Maintenance of Indoor Plants
HORT 2340 - Floral Design and Arrangement
HORT 2350 - Horticulture Cooperative training

Management and Art Courses

MGT 1301 - Principles of Management
MGT 1303 - Principles of Supervision
MGT 2303 - Principles of Marketing
MGT 2315 - Small Business Management
ART 1301 - Design I
ART 1302 - Design II

VII. BASIC COURSE OUTLINES

This section includes the basic course outlines for the agriscience courses to be taught at the secondary level and the course outlines for the postsecondary level agriculture courses.

Although this is a 2+2 articulated curriculum, we have included in this section the basic course outlines for the recommended prerequisites also.

SECONDARY COURSE OUTLINES

Agriscience 101- Introduction to World Agricultural Science and Technology

A. Recognize the Importance of Agriculture in the World

1. Understand Supply and Demand of Food and Fiber
2. Identify the Availability of Renewable and Nonrenewable Agricultural Resources
3. Understand the Impact of Agriculture on the World Economy
4. Describe the Interdependency of Agriculture and Other Segments of Society

B. Explain the Historical Significance of Agriculture

1. Identify Key Developments Shaping Modern Agriculture in the World
2. Identify Key Developments Shaping Modern Agriculture in the United States

C. Recognize the Interdependency of Agriculture and World Politics

1. Identify Factors Affecting World Trade
2. Recognize the Impact of Agriculture as a Political Tool

D. Recognize the Interdependency of Agriculture and the Environment

1. Identify Environmental Concerns in Agriculture
2. List Methods of Protecting the Environment
3. Recognize the Impact of the Environment on Agriculture

E. Explain the Food and Fiber System

1. Explain the Food Chain - from Production to Consumption
2. Explain the Fiber Chain - from Production to Usage

F. Identify Research and Development in Agriculture

1. Understand the Impact of Research and Development and Identify Current Developments in Agricultural Science and Technology
2. Apply Research and Development in the Classroom and Laboratory

G. Explore Career and Other Opportunities in Agriculture

1. Conduct a Career Self-Analysis
2. Recognize the Career Decision-Making Process
3. Develop Job Seeking Skills
4. Identify Full-Time Career Opportunities in Agriculture
5. Identify Part-Time Career Opportunities in Agriculture
6. Identify Avocational Opportunities in Agriculture

H. Develop Personal and Social Skills

1. Develop Professionalism and Ethics
2. Use Proper Etiquette and Behavior
3. Explore Personal Relations
4. Practice Good Grooming and Health Habits

I. Improve Communication Skills

1. Understand the Importance of Effective Communication: Speaking
2. Understand the Importance of Effective Communication: Writing
3. Improve Communication Skills Through Organized Activities
4. Utilize the Media for Effective Communication

J. Develop Leadership Skills in Agricultural Science and Technology Through the FFA

1. Develop Life Skills for Effective Leadership
2. Explore Opportunities for Leadership Development Through the FFA
3. Use Democratic Principles in Conducting Effective Meetings
4. Understand the FFA Organization

K. Examine Personal Financial Management

1. Discuss the Importance and Procedures of Keeping Accurate Records
2. Describe the Importance and Use of Budgeting
3. Describe the Importance and Procedures of Personal Finance

L. Analyze Agricultural Experience Programs

1. Identify Various Types of Supervised Agricultural Experience Programs
2. Describe the Characteristics of Successful Supervised Agricultural Experience Programs
3. Select and Plan Individual Supervised Agricultural Experience Programs

Agriscience 102 - Applied Agricultural Science and Technology

A. Identify Soil Formations

1. Recognize the Importance and Formation of Soils
2. Identify Soil Formations

B. Identify the Nature and Properties of Soils

1. Identify Components and Properties of Soils
2. Recognize Soil Classification Systems

C. Explain Basic Plant Science and Technology

1. Describe Plant Structure and Functions of Plant Parts
2. Discuss Plant Growth and Development: Seed Germination
3. Discuss Plant Growth and Development: Production, Storage, and Use of Food in Plants
4. Outline Plant Genetics
5. Outline Plant Reproduction
6. Discuss Plant Breeding
7. Recognize Plants

D. Explain Basic Animal Science and Technology

1. Explain Animal Growth and Development
2. Describe the Anatomy and Physiology of Animals
3. Identify Breeds and Classes of Livestock and Poultry of Economic Importance to the Community
4. Discuss the Importance of Animal Selection
5. Outline Animal Reproduction
6. Outline Animal Genetics
7. Discuss Animal Breeding

E. Determine Basic Food Science Technology

1. Recognize the Importance of Food Science Technology in the World
2. Determine Trends in World Food Production

F. Explore Agricultural Mechanics

1. Identify Major Areas of Agricultural Mechanics
2. Identify Safety and Laboratory Procedures
3. Perform Basic Skills in Agricultural Construction - Tools
4. Identify Lumber and Compute Bill of Materials
5. Identify and Use Fasteners

G. Recognize the Protection of the Environment

   1. Determine the Effect of Agricultural Chemicals on the Environment
   2. Identify the Requirements for the Proper Use of Agricultural Chemicals
   3. Identify Methods of Protecting the Environment

H. Understand Energy and Water Conservation in Agriculture

   1. Determine Alternative Energy Sources for Agricultural Use
   2. Identify Methods of Conserving Electrical Energy and Combustible Fuels
   3. Explain Methods of Conserving Water

I. Explore Career and Other Opportunities in Applied Agricultural Science and Technology

   1. Conduct a Career Self-Analysis
   2. Identify Career Clusters in Agricultural Science and Technology

J. Understand Experience Programs in Agricultural Science and Technology

   1. Identify the Various Types of Supervised Agricultural Experience Programs
   2. Describe the Characteristics of Successful Supervised Agricultural Experience Programs
   3. Select and Plan Individual Supervised Agricultural Experience Programs

K. Plan and Conduct Leadership Activities in Applied Agricultural Science and Technology

   1. Develop Life Skills for Effective Leadership
   2. Practice Leadership Skills for Agricultural Science and Technology

Agriscience 221 - Introduction to Agricultural Mechanics

A. Understand and Apply Safe Work Practices That Apply to Agricultural Mechanics

1. Determine the Importance of Agricultural Mechanics
2. Understand and Apply Safety Practices
3. Understand and Apply Laboratory Management Procedures

B. Explore Career Opportunities in Agricultural Mechanics

1. Perform a Career Self-Analysis
2. Evaluate Careers in Agricultural Mechanics
3. Assess Career-Decision Making Factors
4. Conduct Supervised Agricultural Experience Programs Related to Agricultural Mechanics

C. Plan and Conduct Leadership Activities Related to Agricultural Mechanics

1. Participate in Leadership Organizations
2. Develop Life Skills for Effective Citizenship
3. Participate in FFA Degree and Award Activities

D. Identify, Select, and Use Hand Tools, Power Tools, and Measuring and Marking Devices

1. Identify and Use Hand Tools
2. Identify and Use Power Tools
3. Select and Use Measuring and Marking Devices

E. Identify and Perform Basic Electric Wiring Skills

1. Identify Basic Principles of Electricity and Understand Basic Electrical Terminology
2. Perform Basic Electric Wiring Skills

F. Perform Basic Plumbing Skills

1. Install Pipe and Plumbing Fixtures
2. Maintain Water System

G. Apply Basic Concrete Principles

1. Estimate Materials Needed
2. Construct Forms
3. Place, Reinforce, Finish, and Cure Concrete

H. Practice Basic Carpentry Skills

1. Identify Building Materials
2. Plan Cost Effective Construction
3. Apply Construction Techniques

I. Select and Apply Paints and Preservatives

   1. Select Materials
   2. Apply Brush Painting Techniques
   3. Apply Spray Painting Techniques

J. Identify Fencing Methods

   1. Select Fencing Materials
   2. Plan Fence Construction

K. Perform and Apply Cold Metal Skills

   1. Identify Types of Metals
   2. Cut, File, Shape, and Drill Metal

L. Perform and Apply Hot Metal Skills

   1. Select and Operate Oxy-Fuel Welding and Cutting Equipment
   2. Select and Operate Electric Arc Welding Equipment

Agriscience 261 - Introduction to Horticultural Sciences

A. Plan and Conduct Leadership Activities Related to Horticultural Sciences

1. Identify Characteristics and Responsibilities of Leaders and Group Members
2. Recognize Basic Parliamentary Conduct of Orderly Meetings
3. Recognize Responsibility of Committee Membership
4. Discuss Leadership Activities
5. Recognize Citizenship Responsibilities

B. Identify and Discuss Employment Skills Related to Horticultural Sciences

1. Identify Employment Opportunities in Horticulture
2. Recognize Employability Characteristics
3. Discuss Applications and Interviews
4. Discuss Employer-Employee Relations and Employee-Employer Relations
5. Identify Employee Benefits and Payroll Information
6. Review Employer Sponsored Training Programs

C. Examine Entrepreneurship Skills Needed to Establish Businesses Related to Horticultural Sciences

1. Identify Opportunities and Options for Business Ownership
2. Recognize Business Entry-Level Procedures and Planning Processes
3. Recognize the Role of Small Business in the Free Enterprise System

D. Explore Career Opportunities in Horticultural Sciences

1. Identify Careers in the Floriculture Industry
2. Identify Careers in the Nursery Industry
3. Identify Careers in the Turf Grass Industry
4. Identify Careers in the Related Horticultural Areas
5. Identify Careers in the Technical Professions
6. Identify Careers in the Interiorscaping Industry

E. Recognize Safe Work Practices That Apply to Horticultural Sciences

1. Discuss Personal Safety
2. Identify Safety Practices in the Selection, Application, Storage, and Disposal of Chemicals
3. Identify Safety Practices in the Selection, Operation, and Storage of Hand Tools, Small Power Tools, and Large Equipment
4. Discuss Water and Electrical Safety

F. Identify and Recognize Maintenance and Storage of Tools and Equipment Used in Horticultural Sciences

1. Discuss Identification, Maintenance, and Storage of Hand Tools
2. Discuss Identification, Maintenance, and Storage of Small Power Tools
3. Discuss Identification, Maintenance, and Storage of Large Power Equipment

G. Explore Technical Skills Utilized in Horticultural Sciences

1. Discuss Plant Classification and Identification
2. Discuss Horticultural Structures and Equipment
3. Discuss Greenhouse Environment
4. Discuss Plant Growing Components
5. Discuss Plant Growth and Development
6. Discuss Plant Propagation
7. Discuss Growing Plants in Greenhouses and Nurseries for Interior and Exterior Uses
8. Discuss Landscape Establishment and Maintenance
9. Discuss Floral Designing
10. Discuss Vegetable Production
11. Discuss Fruit and Nut Production

Agriscience 311- Agribusiness Management and Marketing

A. Examine Agribusiness Management and its Importance

1. Recognize the Importance of Agriculture
2. Describe the Role and Functions of the Manager
3. Investigate the Process of Management Decision Making
4. Discuss the Value of Setting Goals and Objectives

B. Identify Economic Principles Important to Agribusiness Management

1. Discuss Free Enterprise and Economic Systems
2. Examine Consumer Economics: Supply and Demand
3. Examine Producer Economics: Maximizing Profits

C. Illustrate the Use of Budgeting in Decision Making

1. Categorize Income and Cost of Production
2. Examine the Construction and Analysis of Enterprise Budgets
3. Discuss the Use of Whole Farm Budgeting for Planning
4. Investigate the Use of Partial Budgeting to Analyze Proposed Business Changes

D. Analyze Recordkeeping Procedures

1. List the Parts of a Management Information System
2. Compare Accounting Methods
3. Select an Accounting System
4. Prepare Financial Statements: Balance Sheet, Income Statement, and Cash Flow Statement
5. Analyze the Financial Strength of the Business
6. Review Tax Records and Returns
7. Identify Important Production Records
8. Evaluate Production Records

E. Discuss the Acquisition of Capital Resources

1. Compare Methods of Obtaining Capital Resources
2. Identify the Importance and Types of Credit
3. Determine the Institutions that Provide Agricultural Loans
4. Review Loan Application Forms
5. Compare Methods of Computing Interest
6. Compare Types of Loans

F. Explain Business Related Laws

1. Compare Business Types
2. Interpret Common Agricultural Laws
3. Examine Important Government Regulations
4. Review Common Legal Documents

G. Review Methods of Reducing Risk

   1. Identify Risk Management Techniques
   2. Identify Types of Insurance Available
   3. Discuss Sources of Insurance

H. Examine Government Policy Toward Agriculture

   1. Review Past Agricultural Policies
   2. Discuss Recent and Future Government Policies Toward Agriculture

I. Study the Marketing of Agricultural Products

   1. Discuss the Purpose and Importance of Marketing
   2. Discuss the Competitive Environment
   3. Discuss Factors that Influence Market Decisions: Foreign and Domestic
   4. Compare Types of Agricultural Markets
   5. Identify Marketing Alternatives for Production Agriculture
   6. Discuss Forward Contracting: Cash and Futures
   7. Review the Effects of Government Programs and Regulations

J. Examine the Application of Computers to Agribusiness Management

   1. Discuss Appropriate Uses for Computers
   2. Utilize Decision Aid Software
   3. Utilize Computerized Recordkeeping Systems
   4. Identify Guidelines for Selecting a Suitable Computer System

K. Describe the Management of Human Resources

   1. Analyze Employee Benefits
   2. Describe the Employer/Employee Relationship

L. Explore Career Opportunities in Agribusiness Management

Agriscience 312 - Personal Skill Development in Agriculture

A. Discuss Personal Development

1. Develop a Positive Self Concept
2. Develop Social Skills
3. Project a Professional Image

B. Describe an Effective Leader

1. Determine the Traits of a Good Leader
2. Contrast Leadership Styles

C. Develop Leadership Ability

1. Realize Personal Leadership Potential
2. Understand Basic Human Needs
3. Motivating and Influence People
4. Prepare Resumes and Applications

D. Describe Employee Responsibilities

1. Prepare for Job Interviews
2. Describe Employer Expectations
3. Recognize the Importance of Work Related Ethics
4. Get Along with Co-Workers

E. Describe Employer Responsibilities

1. Evaluate Job Applicants
2. Evaluate Employee Performance
3. Develop an Effective Complaint and Appeals Procedure
4. Recognize Employer Responsibilities
5. Recognize the Importance of Business Related Ethics

F. Develop Communications with Groups and Individuals

1. Improve Written Communications
2. Improve Verbal Communications
3. Improve Non-Verbal Communications
4. Participate in Group Discussions
5. Conduct a Successful Meeting
6. Work with Diverse Groups
7. Remove Barriers to Communication
8. Listen Effectively
9. Make Friends

G. Demonstrate Group and Individual Efficiency

1. Develop a Program of Work
2. Organize Groups
3. Establish Personal Goals
4. Manage Time
5. Make Decisions
6. Solve Problems

Agriscience 362 - Horticultural Plant Production

A. Classify and Identify Plants Used in Horticultural Plant Production

1. Identify Advantages of Naming Plants Scientifically
2. Recognize Plant Characteristics Utilized to Classify and Name Plants
3. Recognize Plant Characteristics Utilized to Identify Plants
4. Classify Greenhouse/Nursery Plants
5. Identify Greenhouse/Nursery Plants

B. Recognize Safe Work Practices That Apply to Horticultural Plant Production

1. Recognize Personal Safety Measures
2. Use Safety Practices in Selecting, Applying, Storing, and Disposing of Chemicals
3. Use Safety Practices in Selecting, Operating, and Storing Hand Tools, Small Power Tools, and Large Equipment

C. Identify and Recognize Maintenance and Storage of Tools and Equipment Used in Horticultural Plant Production

1. Identify, Maintain, and Store Hand Tools
2. Identify, Maintain, and Store Small Power Tools
3. Identify, Maintain, and Store Large Power Equipment

D. Recognize Plant Propagation Techniques Related to Horticultural Plant Production

1. Identify Basic Structural Plant Parts
2. Recognize the Basic Functions of Structural Parts of Plants
3. Differentiate Between Monocot and Dicot Seeds
4. Differentiate Between Male and Female Flower Parts
5. Germinate Seeds
6. Plant Seeds in Containers or Seedbeds
7. Recognize Advantages of Asexual Propagation
8. Propagate Plants Asexually

E. Recognize Plant Growing Principles Related to Horticultural Plant Production

1. Select Plant Growing Media Materials
2. Prepare Plant Growing Media Mixtures Using Selected Materials
3. Prepare Mulches and Composts
4. Sterilize Plant Growing Media
5. Select Greenhouse/Nursery Plants
6. Plant Greenhouse/Nursery Plants
7. Apply Fertilizers
8. Water Plants
9. Manage Plant Pests

F. Review Marketing Techniques Related to Horticultural Plant Production

1. Schedule Greenhouse/Nursery Plant Production Cycles
2. Inventory Greenhouse/Nursery Plant Stock
3. Store Greenhouse/Nursery Plant Stock
4. Transport Greenhouse/Nursery Plant Stock
5. Sell Greenhouse/Nursery Plant Stock

G. Identify and Recognize Maintenance of Structures and Equipment Used in Horticultural Plant Production

1. Recognize Considerations for Locating and Building a Greenhouse/Nursery
2. Select Structures Used for Propagating and Growing Greenhouse/Nursery Plants
3. Select Equipment Required to Control Environmental Conditions of Greenhouse/Nursery Plants
4. Select Equipment and Supplies for Propagating and Growing Greenhouse/Nursery Plants
5. Maintain Structures and Equipment
6. Maintain Environmental Control Devices

H. Discuss Management of Environmental Conditions Related to Horticultural Plant Production

1. Recognize Environmental Requirements for Greenhouse/Nursery Plants
2. Control Greenhouse Temperature
3. Control Greenhouse Humidity
4. Modify Nursery Plant Humidity
5. Control Greenhouse Ventilation
6. Control Greenhouse Light
7. Shade Nursery Plants

I. Review Management Records of Enterprises Related to Horticultural Plant Production

1. Evaluate Recordkeeping Systems for Horticultural Plant Production Enterprises
2. Maintain Records of Horticultural Plant Production Enterprises
3. Analyze Records of Horticultural Plant Production Enterprises
4. Assess Horticultural Plant Production Enterprises

J. Explore Career Opportunities in Horticultural Plant Production

1. Perform a Career Self-Analysis
2. Evaluate Careers in Horticultural Plant Production
3. Assess Career Decision-Making Factors

K. Plan and Conduct Leadership Activities Related to Horticultural Plant Production

1. Participate in FFA Chapter Activities
2. Participate in Professional Organizations Related to Horticultural Plant Production
3. Prepare FFA Award and Degree Applications

Agriscience 363 - Floral Design and Interior Landscape Development

A. Classify and Identify Flowers and Plants Used in Floral Design

1. Classify Flowers and Plants as to Appearance, Seasonality, and Use
2. Identify Cut Flowers
3. Identify Interior Foliage Plants
4. Identify Interior Blooming Plants
5. Identify Cut Foliage

B. Review Techniques of Increasing Keeping Qualities of Flowers and Plants Used in Floral Design

1. Use Preservatives for Cut Flowers and Cut Foliage
2. Store Interior Flowers and Plants at the Proper Environmental Conditions
3. Cut Stems Properly

C. Trace the History of Floral Design

1. Recognize Oriental Influences of Floral Design
2. Review European Heritage of Floral Design
3. Identify Modern Uses of Floral Design in the United States

D. Recognize Design Principles Related to Floral Design

1. Use Balance in Floral Design
2. Use Proportion in Floral Design
3. Use Rhythm in Floral Design
4. Use Focalization in Floral Design
5. Sketch Geometric Floral Designs
6. Recognize Color Harmony in Floral Design

E. Evaluate Geometric Floral Designs Prepared with Fresh Cut Flowers Related to Floral Design

1. Review Geometric Floral Design Mechanics
2. Select Materials and Containers for Preparing Geometric Floral Designs with Fresh Cut Flowers
3. Prepare Symmetrical Arrangements with Fresh Cut Flowers
4. Prepare Asymmetrical Arrangements with Fresh Cut Flowers
5. Prepare Round Arrangements with Fresh Cut Flowers

F. Evaluate Geometric Floral Designs Prepared with Silk Flowers and Dry Flowers Related to Floral Design

1. Review Geometric Floral Design Mechanics
2. Select Materials and Containers for Preparing Geometric Floral Designs with Silk Flowers and Dry Flowers
3. Prepare Two-Dimensional Pressed Flower Pictures with Silk Flowers and Dry Flowers
4. Prepare Three-Dimensional Arrangements with Silk Flowers and Dry Flowers

G. Recognize Techniques of Preparing Corsages and Boutonnieres Related to Floral Design

1. Select Flowers, Foliage, and Materials for Preparing Corsages and Boutonnieres
2. Identify Crescent, Vertical, and Round Designs for Corsages and Boutonnieres
3. Wire Flowers
4. Construct Bows
5. Prepare Football Chrysanthemum Corsages, Boutonnieres, and Carnation Corsages

H. Recognize Techniques of Preparing Designs for Holidays, Banquets, and Other Occasions Related to Floral Design

1. Identify Flower Uses for Holidays and Seasonal Occasions
2. Design Floral Arrangements for Holidays and Seasonal Occasions
3. Prepare Floral Designs for Banquets
4. Prepare Floral Designs for Weddings, Funerals, and Churches

I. Recognize Safe Work Practices That Apply to Floral Design and Interior Landscaping

1. Identify Poisonous Plants
2. Practice Safety in Using Tools
3. Practice Safety in Using Chemicals

J. Classify and Identify Tropical Foliage Plants and Blooming Plants Used in Interior Landscape Development

1. Classify Tropical Foliage Plants and Blooming Plants as to Appearance, Seasonality and Use
2. Identify Tropical Foliage Plants and Blooming Plants

K. Discuss Proper Handling Techniques for Tropical Foliage plants and Blooming Plants Used in Interior Landscape Development

1. Manage Quality, Intensity, and Duration of Environmental Conditions for Tropical Foliage plants and Blooming Plants
2. Fertilize and Water Tropical Foliage Plants and Blooming Plants
3. Manage Pests of Tropical Foliage Plants and Blooming Plants
4. Prune Tropical Foliage Plants and Blooming Plants

L. Recognize Principles of Design Applied to Interior Landscaping

1. Use Balance in Interior Landscaping
2. Use Proportion in Interior Landscaping
3. Use Rhythm in Interior Landscaping
4. Use Focalization in Interior Landscaping
5. Assess Color, Form, and Texture of Designs

M. Evaluate Designs of Commercial Clients Related to Interior Landscape Development

1. Design Interior Landscapes for Commercial Mall Sites
2. Design Interior Landscapes for Small Commercial Clients

N. Evaluate Service Contracts Related to Interior Landscape Development

1. Schedule Interiorscaping Services
2. Prepare Bids for Interiorscaping Services
3. Prepare Interiorscaping Contracts

O. Explore Career Opportunities in Floral Design and Interior Landscape Development

1. Perform a Career Self-Analysis
2. Evaluate Careers in Floral Design and Interior Landscape Development
3. Assess Career-Decision Making Factors

P. Plan and Conduct Leadership Activities Related to Floral Design and Interior Landscape Development

1. Participate in FFA Chapter Activities
2. Participate in Professional Organizations Related to Floral Design and Interior Landscape Development
3. Prepare FFA Award and Degree Applications

Agriscience 461 - Pre-Employment
Laboratory in Horticulture

A. Opportunities in Horticultural Occupations

1. Employment Opportunities and Occupational Requirements
2. Choosing An Occupation
3. Finding a Job and Preparing for an Interview
4. Employee-Employee and Employee-Employer Relations
5. Employee Benefits and Payroll Information

B. Plant Classification and Identification

1. Greenhouse Plant Classification
2. Greenhouse, Ornamental, and Nursery Plant Identification
3. Bud, Stem, Leaf, Flower, and Fruit Characteristics

C. Structures and Equipment Used in Producing Greenhouse, Ornamental, and Nursery Plants

1. Structures Used in Producing Plants
2. Greenhouse Parts and Coverings
3. Greenhouse and Nursery Equipment
4. Determining Location, Size, and Arrangement of a Greenhouse

D. Greenhouse Environment

1. Greenhouse Environment
2. Watering and Feeding Greenhouse Plants

E. Soil and Plant Growth and Development

1. Propagation Media
2. Nursery Soils
3. Compost, Mulches, and Soil Mixtures
4. Soil Sterilization
5. Fertilizers
6. Plant Growth and Development

F. Propagation of Plants

1. Sexual Propagation of Greenhouse, Ornamental, and Nursery Plants
2. Asexual Propagation and Growth Regulators
3. Propagating Plants by Cuttings
4. Propagating Plants by Layering, Separation, and Division
5. Propagating Plants by Grafting
6. Propagating Plants by Budding
7. Plant Selection and Breeding
8. Reproduction Cycle of Plants

G. Growing Greenhouse Plants

   1. Cut Flower Production
   2. Pot Flower Production
   3. Bedding Plant Production
   4. Outdoor Foliage Plant Production
   5. Indoor Foliage Plant Production
   6. Growing Plants for Totem Poles
   7. Growing Plants for Terrariums and Bottle Gardens and Preparing Them
   8. Growing Succulents

H. Nursery Plant Production

   1. Growing Nursery Stock
   2. Growing Ornamentals in Containers

I. Developing and Maintaining the Landscape

   1. Grades and Standards for Landscape Plants
   2. Landscape Planning
   3. Preparing the Landscape Plan
   4. Maintaining the Landscape

J. Establishing and Caring for Turf

   1. Turf Grasses of Texas
   2. Establishing a New Turf
   3. Managing an Established Turf
   4. Turf Problems

K. Soil and Plant Diseases, Insects, Organisms, and Weeds

   1. The Safe Use of Chemicals in Controlling Diseases, Insects, Organisms, and Weeds
   2. Identification and Control of Plant Insects
   3. Identification and Control of Plant Diseases

L. Floral Arrangements

   1. Floral Design Accessories
   2. Arranging Floral Baskets, Vases, and Miscellaneous Tributes
   3. Judging Floral Arrangements

M. Greenhouse and Nursery Business Management

   1. Calculating Production Costs
   2. Labeling, Pricing, Displaying, and Advertising
   3. Financial Control, Credit, Records, and Accounts
   4. Marketing

N. Operating and Maintaining Horticultural Equipment

1. Personal Safety
2. Selecting and Maintaining Horticultural Hand Tools
3. Operating and Maintaining Small Power Equipment
4. Operating and Maintaining Tractors and Other Large Equipment

O. Vegetable Production

1. Home Gardening
2. Commercial Gardening

P. Fruit and Nut Production

1. Home Orchards
2. Commercial Orchards

Q. Agricultural Leadership

1. The Future Farmers of America
2. Parliamentary Procedure

POSTSECONDARY COURSE OUTLINES

AGRICULTURE 2 + 2 + 2
Retail Florist Management Option
Palo Alto College

Agriculture 2 + 2 Option Applied Degree

- AGRI 1101 Introduction to Agriculture
- HORT 1307 Soils and Fertilizers
- HORT 1308 Plant Physiology and Diseases
- HORT 1312 Plant Propagation
- HORT 2302 Pests and Pesticides
- HORT 2315 Plant Identification II
- HORT 2317 Managing Agricultural Businesses
- *HORT 2330 Interiorscape Design
- *HORT 2333 Selection and Maintenance of Indoor Plants
- *HORT 2340 Floral Design and Arrangement
- HORT 2350 Horticulture Cooperative Training

Certificate Program (Covers Curriculum of First Two Years)

- AGRI 1301 Agriculture Economics
- HORT 1305 General Horticulture
- HORT 1314 Plant Identification I

Agriculture 2 + 2 + 2 Option Associate Degree

- AGRI 1101 Introduction to Agriculture
- HORT 1312 Plant Propagation
- HORT 2315 Plant Identification II
- HORT 2317 Managing Agricultural Businesses
- *HORT 2330 Interiorscape Design
- *HORT 2333 Selection and Maintenance of Indoor Plants
- HORT 2402 Pests and Pesticides

* The course outlines for these courses have not been developed at this time.

Agriculture 1101
Introduction to Agriculture

Course Objective

Upon the successful completion of this course, the student will:

1. Be able to make an intelligent decision in the choice of an agricultural career.
2. Be familiar with the different career opportunities in agriculture.
3. Be familiar with the importance of agriculture to the global economy.

Outline

- I. Importance of Agriculture to the State, Nation, and World
- II. Career Opportunities in Animal Science
- III. Career Opportunities in Natural Resources
- IV. Career Opportunities in Agribusiness
- V. Career Opportunities in Plant Science/Horticulture
- VI. Career Opportunities in Government
- VII. Scientific Agricultural Careers
- VIII. Career Opportunities in Agricultural Mechanics
- IX. The New Fields of Agriculture
- X. Agriculture in the World Economy
- XI. Agriculture's Future

Horticulture 1307
Soils and Fertilizers

Course Objectives

Upon the successful completion of this course, the student will:

1. Be able to define soil, it's origin and it's relationship to the landscape and as a medium for plant growth.
2. Be able to describe the physical properties of soils.
3. Be able to define types of soil moisture and describe their relation to crop requirements.
4. List the chemical and mineral properties of soils, explain the needs of plants in relation to these chemicals and minerals and test soil to determine content of the major chemical and mineral elements.
5. Define and explain the relationship between micro-organisms and higher plants, and the relationship among micro-organisms.

Course Outline

I. Introduction to Soils

  A. Soil concepts.

    1. Define soil.
    2. Outline the origin and formation of soils.
    3. Cite three factors that cause soil differences.

  B. Soil as a medium for plant growth.

    1. List and describe the factors of plant growth as provided by soils.
    2. Describe the utilizations of the soil by plants as related to root systems and soil content.

  C. Physical properties of soils.

    1. Define soil texture and explain how to use a soil textural triangle.
    2. Define soil structure and explain how it developed.
    3. Explain the color variation of soils.

  D. Soil moisture.

    1. Define the classifications of soil water and describe their effects on soils and plant growth.
    2. Explain three ways water can move in the soil.

3. Explain why fertilizer can cause a decrease in the amount of water transpired per pound of plant material produced.
4. Explain how cultivation affects moisture loss from soils.

II. Soil Chemicals and Minerals

A. Ion exchange.

1. Define CEC.
2. Identify the source and amount of negative changes.
3. Describe exchangeable actions as a source of plant nutrients.

B. Soil reactions.

1. Define acid, neutral, and alkaline soils.
2. Differentiate between active and potential acidity.
3. List three processes that contribute to the development of acid soils.
4. List three nutrients that are likely to be deficient in soils with a pH of 8.0.
5. Define buffer and explain the role clay minerals play in the buffering capacity of a soil.
6. Define a saline soil and alkaline soil, and explain how plant growth is affected by each of these soils.

C. Soil and fertilizers.

1. Diagram the nitrogen cycle.
2. Describe nitrogen fixation.
3. Explain the significance of the C:N ratio.
4. Explain the basis for nitrogen fertilizer recommendations.
5. Identify the nitrogen carriers and make an economic comparison between them.

D. Soil and fertilizer phosphorus.

1. Explain the phosphorus cycle.
2. List the forms of soil phosphorus.
3. Describe the basis for phosphorus fertilizer recommendations.
4. List phosphorus fertilizers and explain their uses.
5. Discuss the environmental concerns with soils containing large amounts of phosphorus.

E. Soil and fertilizer potassium.

1. Explain the potassium cycle.
2. Describe the forms of potassium.
3. List the factors affecting the uptake of potassium.
4. Discuss the basis of potassium fertilizer recommendations.
5. List the potassium fertilizers.

F. Secondary macronutrients and the micronutrients of soils and fertilizers.

1. Describe the forms of the secondary macronutrients.
2. List the essential micronutrients and explain the purpose of each.
3. Describe micronutrient deficiency symptoms.

G. Mixed fertilizers.

1. Define fertilizer grade.
2. Briefly describe the major fertilizer systems.
3. Explain the methods of fertilizer and pesticide combinations and list the major considerations.

III. Soil Organisms

A. List the kinds of organisms found in soil.
B. Differentiate between heterotrophic and autotrophic bacteria.
C. Discuss the nutrient requirements of soil organisms.
D. List and explain the soil conditions which influence micro-organisms.
E. Define the following:

1. Mineralization
2. Decomposition
3. Ammonification
4. Nitrification
5. Oxidation
6. Reduction

F. List ways micro-organisms have detrimental influences on plant growth.

IV. Soil Organic Matter

A. Define humus and describe the changes which occur as plant growth.
B. Describe the composition of organic materials which are added to soils.
C. Outline the accumulation and loss of soil organic matter.
D. List the soil conditions favoring the accumulation of organic matter.

V. Fertilizer Applications and Practices

A. List and describe the methods of fertilizer application.
B. Discuss the fertilizer recommendation

Horticulture 1308
Plant Physiology and Diseases

Course Objectives

Upon the successful completion of this course, the student will:

1. Be able to identify the parts of the cell and list the function/functions of each part.
2. Be able to discuss plant growth by cell division, elongation, and differentiation.
3. Be able to describe photosynthesis, the process, the function, the inputs, and the products.
4. Be able to describe respiration in plants, the process, the function, the inputs, and the products.
5. Be able to trace the movement of water and nutrients through the plant.
6. Be able to list factors associated with growth and describe how each factor controls growth of plants.
7. Be able to define "plant disease."
8. Be able to classify diseases of plants.
9. Be able to list methods of disease prevention, treatment, and control.

Course Outline

I. Internal Plant Structure

  A. Cell

    1. Label the parts of a plant cell.
    2. Describe the functions of the cell components.

  B. Tissue

    1. Identify types of root, leaf, and stem tissue.
    2. Define the function of tissue found in roots, leaves, and stems.

II. Plant Growth

  A. Define cell division, elongation, and differentiation.
  B. Locate and outline areas of growth in plants.
  C. List and explain the steps of mitosis and meiosis.

D. Illustrate the control of growth by the following factors:

1. Nutrients
2. Hormones
3. Light
4. Photoperiod
5. Temperature

III. Photosynthesis

A. Identify how light energy is absorbed by the plant.
B. Outline the process of transforming light energy into chemical energy.
C. Trace the pathway through which oxygen is released from water.
D. Trace the pathway through which carbon dioxide is transformed into sugar.
E. Outline how CAM plants manufacture food.

IV. Respiration

A. Define respiration.
B. Compare and contrast photosynthesis and respiration.
C. Outline the steps of respiration using the chemicals metabolized and the products of respiration.
D. Differentiate between light and dark respiration.

V. Water and Nutrient Movement in Plants

A. Identify structures in the plant involved with the absorption, transport, and release of water and explain how they function.
B. Trace water as it moves into and is transcribed in plants.
C. Trace nutrients as they enter into the plant and how they are translocated through the plant.
D. Define transpiration, list plant activities that are involved with transpiration and explain how these activities control plant turgidity.

VI. Plant Diseases

A. Classify infectious and noninfectious diseases.
B. List principles of disease diagnosis.
C. List principles of disease prevention.
D. List principles of disease control.
E. List common symptoms of major disease types.

F. Outline methods for determining economic threshold.

G. Outline procedure for collecting and sending plant material to a disease testing laboratory.

VII. Definitions

Define terms as per student handout.

Horticulture 1312
Plant Breeding and Propagation

Course Objectives

1. The student will be able to identify and list purposes for propagating structures, equipment, tools, media, fertilizers, and containers.
2. The student will be able to outline and explain the sanitation procedures used during propagation of plants.
3. The student will be able to propagate plants by sexual and asexual methods.
4. The student will be able to identify and list natural and synthetic plant hormones used for plant propagation.

Course Outline

I. Structures, Equipment, Tools, Media, Etc.

- A. Describe the structural design and explain the functions of the following:
    1. Greenhouse
    2. Hot house
    3. Cold frame
    4. Lath house
    5. Heated propagator
- B. Identify and list the uses of the following:
    1. Watering devices
    2. Secateurs
    3. Trowels
    4. Budding and grafting knives
    5. Dibble
- C. List the characteristics of a media mix.
- D. List the components used in media mixes.
- E. List types of fertilizers used for outdoor and indoor plants.
- F. Identify, describe, and list functions of the following:
    1. Flats
    2. Clay pots
    3. Plastic pots
    4. Fiber pots
    5. Peat or fiber blocks
    6. Bags

II. Sanitation

A. Define soil pasteurization.
B. Outline procedures to prevent the spread of pathogens during the propagation of plants.

III. Sexual Propagation

A. Summarize the development of the seed and spore.
B. Define seed germination, seed dormancy, seed scarification, and seed stratification.
C. Outline procedures for harvesting, processing, and storing seeds for vegetable and ornamental plants.
D. Use stratification and scarification techniques to propagate plants by seed.
E. Propagate plants by spores.

IV. Asexual Propagation

A. List reasons for propagating plants by asexual methods.
B. List the asexual methods of propagating plants.
C. Explain how plants are able to reproduce asexually.
D. Outline the "Plant Patent Law".
E. Propagate plants by the following means:

    1. Cuttings
    2. Budding
    3. Grafting
    4. Division
    5. Layering
    6. Separation
    7. Tissue culture

Horticulture 2302
Pests and Pesticides

COURSE OBJECTIVES

Upon the successful completion of this course, the student will:

1. Be able to classify pesticides according to use formulation and application.
2. Be able to use the terminology and identify equipment used in the application of pesticides.
3. Demonstrate the methods of calibration of equipment and demonstrate the safe application of pesticides.
4. Identify pests of plants and list methods of control.
5. List the necessary requirements for certification and necessary information required of applicators.
6. Be able to list environmental concerns in the use of pesticides.

COURSE OUTLINE

I. Pesticides

   A. List some of the early pesticides used before the 1800s.
   B. Justify, by essay, the use or nonuse of pesticides in modern agriculture.
   C. Identify the types of people that are pesticide users.
   D. Match pesticides with their target species.
   E. Classify pesticides as to formulation and specificity.

II. Terminology and Equipment

   A. Label the anatomy of insect pests, vegetative pests, and weeds.
   B. Label and explain the function of the parts of pesticide application equipment.
   C. Define the types of pesticide formulations.
   D. Define terms as per student handout.

III. Pesticide Application Calibration

   A. Explain the purpose for equipment calibration.
   B. Outline an discuss the various calibration methods for the following types of equipment:

      1. Hand sprayers
      2. Boom sprayers
      3. Band applicators
      4. Air blast sprayers
      5. Fumigation applicators
      6. Granular applicators

C. Outline procedures for calibrating aerial equipment.
D. Explain the purpose for calculating formulations.
E. Make calculations for the following:

   1. Liquid mixing
   2. Wettable powders
   3. Percentage mixing
   4. Dust mixing
   5. Granular mixing
   6. Square feet calculations and mixing

IV. Pesticide Safety

A. List factors used in making a proper selection of a pesticide.
B. List rules to follow in handling and mixing pesticides.
C. List and discuss the rules and recommendations for safe storage and disposal of pesticides and pesticide containers.
D. List protective clothing and equipment used in pesticide application.
E. List pesticides poisoning effects and symptoms.
F. List first aid procedures to follow in case of pesticide poisoning.
G. List and explain the minimum requirements for a pesticide label to be complete.
H. Explain the need for and the type of records to be kept concerning pesticide application.

V. Pest Identification and Control

A. Collect insect and vegetative pets as per lab syllabi.
B. Collect information on vertebrate pests as per lab syllabi.
C. List control methods for collected pests.
D. Explain the pesticide control programs.
E. Identify disease resistant plants.
F. Identify insect resistant plants.

VI. Certified Applicator Requirements

A. List and define the types of certified applicators and requirements for each.
B. List government regulating agencies concerned with applicator certification.
C. List and define the areas in which an applicator may be certified.

VII. Environmental Concerns

A. Define the parameters concerned with pesticide application and the reaction with the following:
   1. Soil
   2. Water
   3. Air
   4. Plants
   5. Beneficial species

B. Explain pesticide persistence and accumulation and the effect on the environment.

C. List recommendations for pesticide applicators to follow in order to protect the environment.

D. List the federal and state agencies concerned with the application of pesticides and outline their control on pesticide application.

Horticulture 2315
Plant Identification II - Herbaceous and Exotic Plants

COURSE OBJECTIVES

Upon the successful completion of this course, the student will:

1. Identify plants using their morphology.
2. Classify plants using growth habits, leaf bearing habits, life span,and temperature tolerance.
3. Identify plants using both the common and scientific name.
4. Be able to provide information on landscape use and propagation of plants.
5. Be able to locate areas of distribution better suited for the particular placement of plants.
6. Be able to identify plants from live specimens or container plants and from photographs or slides.

COURSE OUTLINE

I. Plant Morphology

   A. Identify and define plant forms.
   B. Identify, define, and label major parts of the external anatomy of the plant.
   C. Identify common leaf shapes.
   D. Identify leaf tips.
   E. Identify leaf margins.
   F. Identify leaf types.
   G. Identify types of flower arrangement.
   H. Identify types of flowers.
   I. Identify individual flower parts.

II. Plant Classification

   A. Classify plants accorting to form.
   B. Classify plants accorting to growth habits.
   C. Classify plants accorting to leaf bearing habit.
   D. Classify plants accorting to life span.
   E. Classify plants accorting to temperature tolerance.
   F. Classify plants accorting to flowering characteristics.

III. Plant Propagation and Uses

   A. Identify the best method of propagation of the listed plants.
   B. List the uses for the listed plants.

IV. Identification

A. Use common name, genus, and species.
B. Spell names correctly.
C. Use the following list:

1.	Acalypa wilkesiana	Jacob's coat, Copperleaf
2.	Adiantum raddianum	Delta Maidenhair fern
3.	Aechemea fasciata	Urn Plant, Silver Vase
4.	Aeschynanthus pulcher	Scarlet Basket Vine Lipstick Plant
5.	Agave victoriae-reginae	Queen Agave
6.	Aglaonema commutatum	Silver Evergreen
7.	Aglaonema commutatum maculatum	Silver Evergreen
8.	Aglaonema commutatum "Franscher"	Franscher Evergreen
9.	Aglaonema commutatum "Pseudobracteatum"	Golden Evergreen
10.	Aglaonema commutatum "Silver King"	Silver King Evergreen
11.	Aglaonema commutatum "Treubii"	Ribbon Aglaonema
12.	Aglaonema costatum	Spotted Evergreen
13.	Aglaonema crispum	Painted Drop Tongue
14.	Aglaonema modestum	Chinese Evergreen
15.	Aloe barbadensis	Barbados Aloe, Medicinal Aloe, Burn Plant
16.	Ananas comosus	Pineapple
17.	Anthurium X cultorum	Flamingo Lily
18.	Aphelandra squarrosa	Zebra Plant, Saffron Spike
19.	Araucaria heterophylla	Norfolk Island Pine
20.	Ardisia crenata	Coralberry, Spiceberry
21.	Asparagus densiflorus "Sprengeri"	Sprenger Asparagus
22.	Asparagus densiflorus "Myers"	Plume Asparagus
23.	Asparagus setaceus	Asparagus Fern, Lace Fern
24.	Aspidistra elatior	Cast Iron Plant, Barroom Plant, Parlor Palm
25.	Beaucarnea recurvata	Ponytail Palm, Elephant Palm
26.	Begonia X semper florens-cultorum	Wax Begonia, Bedding Begonia
27.	Begonia X erythrophylla	Beefsteak Begonia
28.	Begonia masoniana	Iron Cross Begonia
29.	Begonia X rex-cultorum	Rex Begonia
30.	Brassaia actinophylla	Australian Umbrella Tree Octopus Tree
31.	Caryota mitis	Burmese Fistail Palm, Clustered Fishtail Palm

32. Cereus peruvianus	Peruvian Apple, Column Cactus
33. Ceropegia woodii	Rosary Vine, String of Hearts
34. Chamaedorea elegans	Parlor Palm
35. Chamaerops humulis	European Fan Palm
36. Chlorophytum comosum	Spider Ivy, Spider Plant
37. Chlorophytum comosum "Vittatum"	Varigated Spider Ivy
38. Chrysalidocarpus lutescens	Areca Palm, Yellow Palm
39. Cissus rhombifolia	Grape Ivy, Venezuela Treebine
40. Cissus antarctica	Kangaroo Vine
41. Cissus rotundifolia	Arabian Wax Cissus
42. Codiaem variegatum pictum	Garden Croton
43. Coffea Arabica	Coffee
44. Coleus X hybridus	Garden Coleus
45. Cordyline terminalis	Goodluck Plant, Hawaiian Ti
46. Crassula argentea	Jade Plant, Jade Tree
47. Crassula argentea "Tricolor"	Tricolor Jade Plant
48. Cryptanthus bivittatus	Earth Star
49. Cryptanthus X "It"	Color Band Cryptanthus
50. Cuphea ignea	Cigar Flower, Cigar Plant, Firecracker Plant
51. Cycas revoluta	Sago Palm, Conehead, Funeral Palm
52. Cyperus alternifolius	Umbrella Plant, Umbrella Palm
53. Cyrtomium falcatum	Holly Fern
54. Dieffenbachia amoena	Giant Dumbcane, Charming Dumbcane
55. Dieffenbachia exotica	Exotic Diffenbachia
56. Dieffenbachia exotica "Perfection"	Perfection Dumbcane
57. Dieffenbachia maculata	Spotted Dumbcane
58. Dieffenbachia maculata "Rudolph Roehrs"	Yellow Leaf Dumbcane
59. Dizygotheca elegantissima	False Arelia
60. Dracena fragrans "Massangeana"	Corn Plant
61. Dracena deremensis "Janet Craig"	Janet Craig Dracena
62. Dracena deremensis "Warkeckii"	Striped Dracena
63. Dracena goldieana	Queen of Dracenas
64. Dracena marginata	Madagascar Dragon Tree, Red Edged Dracena

65. Dracena sanderiana	Belgian Evergreen, Ribbon Plant
66. Dracena surculosa	Gold Dust Dracena Spotted Dracena
67. Epipremnum aureum	Pothos, Golden Pothos
68. Episcia cupreata	Flame Violet
69. Euphorbia milii splendens	Crown of Thorns
70. X Fatshedra lizei	Aralia Ivy
71. Fatsia japonica	Japanese Fatsia
72. Ficus benjamina	Benjamin Tree, Weeping Fig
73. Ficus deltoidea	Mistletoe Fig
74. Ficus elastica "Decora"	Wideleaf Rubber Plant
75. Ficus elastica "Variegata"	Varigated Rubber Plant
76. Ficus lyrata	Fiddle Leaf Fig
77. Ficus pumila	Creeping Fig
78. Fittonia vershaffeltii	Red Nerve Plant, Mosiac Plant
79. Fittonia verschaffeltii argyroneura	Silver Nerve Plant
80. Gibasis geneculata	Tahitian Bridal Veil
81. Gynura aurantiaca "Purple Passion"	Purple Passion Vine
82. Hedera helix	English Ivy
83. Hemigrapis alternata	Red Ivy
84. Heptaplureum arboricola	Dwarf Schefflera
85. Howea forsterana	Sentry Palm, Kentia Palm
86. Hoya carnosa	Wax Plant, Honey Plant
87. Hoya carnosa "Krinkle Kurl"	Hindu Rope
88. Hypoestes phyllostachya	Polka Dot Plant, Freckle Face
89. Iresine herbstii	Beef Plant, Chicken Gizzard, Beefsteak Plant
90. Kalanchoe daigremontiana	Devil's Backbone
91. Maranta leuconeura	Prayer Plant, Ten Commandments
92. Maranta leuconeura eurythroneura	Red Nerve Plant, Red Veined Prayer Plant
93. Maranta leuconeura kerchoviana	Rabbit's Foot, Rabbit's Track
94. Mikania ternata	Plush Vine
95. Mimosa pudica	Sensitive Plant, Touch Me Not
96. Monstera deliciosa	Swiss Cheese Plant, Breadfruit Vine

97.	Neoreglia cariolinae "Tricolor"	Striped Blushing Bromeliad
98.	Nephropepis exalta "Bostoniensis"	Boston Fern
99.	Nephropepis exalta "Fluffy Ruffles"	Fluffy Ruffles Fern
100.	Opuntia microdasys	Rabbit Ears
101.	Pandanus veitchii	Veitch Screw Pine
102.	Pellionia pulchra	Satin Pellionia, Rainbow Vine
103.	Peperomia obtusifolia	Baby Rubber Plant, Pepper Face
104.	Pepromia obtusifolia "Variegated"	Varigated Peperomia
105.	Peperomia argyreia	Watermelon Begonia
106.	Peperomia caperata	Emerald Ripple Peperomia
107.	Peperomia scandens	Philodendron Peperomia
108.	Philodendren scandens oxycardium	Heart Leaf Philodendron
109.	Philodendron bipennifolium	Horsehead Philodendron
110.	Philodendron domesticum	Spade Leaf Philodendron, Elephant's Ear
111.	Philodendron X "Emerald Duke"	Emerald King Philodendron
112.	Philodendron X "Florida"	Florida Philodendron
113.	Philodendron X "Majesty"	Majesty Philodendron
114.	Philodendron X "Red Duchess"	Red Princess Philodendron
115.	Philodendron scandens micans	Velvet Leaf Philodendron
116.	Philodendron selloum	Tree Philodendron, Saddle Leaf Philodendron
117.	Phoenix roebelenii	Miniature Date Palm
118.	Pilea cadierei	Aluminum Plant
119.	Pilea microphylla	Artillery Plant
120.	Pilea "Moon Valley"	Moon Valley Plant
121.	Pilea nummulariifolia	Creeping Charlie
122.	Pilea "Silver Tree"	Silver Tree Panamiga
123.	Pittosporum tobira	Japanese Pittosporum, Australian Laurel, Mock Orange
124.	Platycereum birurcatum	Common Staghorn Fern
125.	Plectranthus australis	Swedish Ivy
126.	Podocarpus macrophyllus	Southern Yew, Japanese Yew, Buddhist Pine
127.	Polysicias fruitcosa	Ming Aralia, Chinese Aralia, Parsley Aralia

128.	Pteris ensiformis "Victoriae"	Victoria Brake Fern, Silver Leaf Fern
129.	Rhpais excelsa	Bamboo Palm, Slender Lady Palm
130.	Rhoeo spathacea	Purple Leaved Spiderwort Moses in the Cradle
131.	Saintpaulia ionantha	Common African Violet
132.	Sansevieria trifasciata	Snake Plant, Mother In Law Tongue
133.	Sansevieria trifasciata "Hahnii"	Bird's Nest Sansevieria
134.	Sansevieria trifasciata laurentii	Varigated Snake Plant
135.	Saxifraga stolonifera	Strawberry Geranium, Strawberry Begonia, Creeping Sailor, Mother of Thousands
136.	Schlumbergera bridgesii	Christmas Cactus
137.	Scindapsus pictus "Argyraeus"	Satin Pothos
138.	Sedum morganianum	Burro's Tail, Donkey's Tail, Lamb's Tail
139.	Senecio mikaniodes	German Ivy, Parlor Ivy
140.	Senecio macroglossus "Variegatum"	Varigated Wax Vine
141.	Senecio rowleyanus	String of Beads, Bead Vine
142.	Soleirolia soleirolii	Baby's Tears
143.	Spathiphyllum "Clevelandii"	White anthurium, Peace Lily
144.	Spathiphyllum "Mauna Loa"	Muana Loa Peace Lily
145.	Streptocarpus saxorum	False African Violet
146.	Syngonium podophyllum	Nephthytis, Arrowhead Vine
147.	Tolmiea menziesii	Piggyback Plant
148.	Tradescantia fluminensis	Wandering Jew
149.	Yucca elephantipes	Spineless Yucca

Horticulture 2317
Managing Agriculture Business

COURSE OBJECTIVES

Upon the successful completion of this course, the student will:

1. Be familiar with the fundamentals of planning a business.
2. Recognize and list types of records and the methods of their management.
3. Outline the operational procedure of an office and develop a list of necessary equipment.
4. Be familiar with the business terminology, some statistics used in business, business law, and publications used by trades and businesses.
5. Develop methods for controlling inventory, merchandising, and advertising.
6. Be able to use salesmanship techniques and public relations in the business.
7. Be familiar with the application of computers in business.

COURSE OUTLINE

I. Business Planning

   A. Define the forms of business ownership and list the advantages and disadvantages of each.
   B. Define strategic planning, explain the process, and explain why it may fail.
   C. List the types of franchises, the benefits of them, and their drawbacks.

II. Records

   A. Identify the types of records and types of systems required in business.
   B. Define the terminology as it is used in record keeping and in general business.
   C. Identify sources of equity capital.

III. Office Operations and Equipment

   A. List the basic equipment and furniture requirements of a typical office.
   B. List the advantages and disadvantages of using computers in business.
   C. List the ways computers are used in business.
   D. List the factors involved in securing sources for office staff.
   E. Define the types of office and business crimes and list preventative measures.

IV. Business Law, Statistics, and Publications

A. List and define the six elements of a contract.
B. Outline the major components of the Uniform Commercial Code.
C. Identify the major points of the law involving sales warranties and product liabilities.
D. List and explain the process of applying for a patent, trademark, or copyright.
E. Compare the success rate of creating a new business as opposed to buying an existing one.
F. Develop a list of trade associations and professional publications which relate to a horticulture business.

V. Inventory, Merchandising, and Advertising

A. Describe the importance of inventory control.
B. Define the "80/20 rule" and illustrate its application to inventory management.
C. List the advantages and the disadvantages of the visual inventory control system.
D. Describe the operations of an ABC inventory control system.
E. Outline several techniques for minimizing inventory costs.
F. Define marketing, the components of a marketing plan, and the benefits of a marketing plan.
G. Define the concept of "competitive edge."
H. Illustrate how the elements of a marketing mix work together to enhance a small business' success in marketing its goods and services.
I. Demonstrate the stage of the produce life cycle and the various channels of distribution.
J. Identify consumer credit as related to marketing.
K. Define advertising and distinguish it from publicity, sales promotion, and personal selling.
L. List reasons for promotional advertising.
M. Illustrate advantages and disadvantages of the various media.
N. Present the steps in the development of a business advertising plan.
O. Identify four basic methods for preparing an advertising budget.

VII. Salesmanship and Public Relations

A. Evaluate the phrase "The customer is always right."
B. List the factors involved with evaluating the types of customers.
C. List and describe market plans that are related to customers.

Horticulture 2350
Horticulture Cooperative Training

COURSE OBJECTIVES

While enrolled in this course:

1. The student should develop the basic skills required in order to become a competent employee in an occupation.
2. The student should develop the technical and related aspects of an occupation through class work under the supervision of the instructors.
3. The student should acquire an appreciation, attitudes, and work habits that will contribute toward the development or good citizenship by developing his/her physical, social, civic, cultural, and economic competencies.
4. The student is provided an opportunity to learn an occupation while earning credit toward an associates degree.
5. The student is provided an opportunity to prepare for a higher education.

COURSE OUTLINE

I. Required Skills for Competent Employees

- A. Become familiar with some of the characteristics which contribute to successful full-time and part-time employment.
- B. List the things employers have a right to expect of the employee.
- C. Realize the importance of good employee/employer relations to job success and the responsibilities of the employee and employer in achieving a good working relationship.
- D. Become aware of the importance of good working relationships among employees and factors to consider in improving personal relationships.
- E. Realize the importance and necessity for developing social skills to be used on and off the job.

II. Technical and Related Aspects of an Occupation

- A. Understand the importance of accurate business records and the kinds of records necessary for businesses to keep.
- B. Become familiar with the forms used in business for selling, ordering, and receiving merchandise.
- C. List the steps in receiving and storing merchandise.
- D. Understand the factors that enter into the determination of the selling price of merchandise.

E. Determine stocking levels.
F. Become acquainted with the ways accidents can be prevented.
G. Develop telephone courtesy.
H. List the characteristics of a good salesperson and how they are developed.
I. Be familiar with the factors that are important in meeting customers.

III. Attitudes and Work Habits Contributing to Employee Competence

A. Understand how to build a philosophy of life that will enable the student to be a happier more useful person.
B. Become aware of behavior traits within oneself and others.
C. Analyze the statement, "Honesty is the best policy."
D. Explain how to make the most of the student's learning abilities.
E. Become acquainted with problems and how to develop solutions.
F. Develop ways to increase self-confidence.

Horticulture 2402
Pests and Pesticides

COURSE OBJECTIVES

Upon the successful completion of this course, the student will:

1. Be able to classify pesticides according to use formulation and application.
2. Be able to use the terminology and identify equipment used in the application of pesticides.
3. Demonstrate the methods of calibration of equipment and demonstrate the safe application of pesticides.
4. Identify pests of plants and list methods of control.
5. List the necessary requirements for certification and necessary information required of applicators.
6. Be able to list environmental concerns in the use of pesticides.

COURSE OUTLINE

I. Pesticides

   A. List some of the early pesticides used before the 1800s.
   B. Justify, by essay, the use or nonuse of pesticides in modern agriculture.
   C. Identify the types of people that are pesticide users.
   D. Match pesticides with their target species.
   E. Classify pesticides as to formulation and specificity.

II. Terminology and Equipment

   A. Label the anatomy of insect pests, vegetative pests, and weeds.
   B. Label and explain the function of the parts of pesticide application equipment.
   C. Define the types of pesticide formulations.
   D. Define terms as per student handout.

III. Pesticide Application Calibration

   A. Explain the purpose for equipment calibration.
   B. Outline an discuss the various calibration methods for the following types of equipment:

      1. Hand sprayers
      2. Boom sprayers
      3. Band applicators
      4. Air blast sprayers
      5. Fumigation applicators
      6. Granular applicators

C. Outline procedures for calibrating aerial equipment.
D. Explain the purpose for calculating formulations.
E. Make calculations for the following:

   1. Liquid mixing
   2. Wettable powders
   3. Percentage mixing
   4. Dust mixing
   5. Granular mixing
   6. Square feet calculations and mixing

IV. Pesticide Safety

A. List factors used in making a proper selection of a pesticide.
B. List rules to follow in handling and mixing pesticides.
C. List and discuss the rules and recommendations for safe storage and disposal of pesticides and pesticide containers.
D. List protective clothing and equipment used in pesticide application.
E. List pesticides poisoning effects and symptoms.
F. List first aid procedures to follow in case of pesticide poisoning.
G. List and explain the minimum requirements for a pesticide label to be complete.
H. Explain the need for and the type of records to be kept concerning pesticide application.

V. Pest Identification and Control

A. Collect insect and vegetative pets as per lab syllabi.
B. Collect information on vertebrate pests as per lab syllabi.
C. List control methods for collected pests.
D. Explain the pesticide control programs.
E. Identify disease resistant plants.
F. Identify insect resistant plants.

VI. Certified Applicator Requirements

A. List and define the types of certified applicators and requirements for each.
B. List government regulating agencies concerned with applicator certification.
C. List and define the areas in which an applicator may be certified.

VII. Environmental Concerns

A. Define the parameters concerned with pesticide application and the reaction with the following:

  1. Soil
  2. Water
  3. Air
  4. Plants
  5. Beneficial species

B. Explain pesticide persistence and accumulation and the effect on the environment.

C. List recommendations for pesticide applicators to follow in order to protect the environment.

D. List the federal and state agencies concerned with the application of pesticides and outline their control on pesticide application.

CERTIFICATE PROGRAM COURSE OUTLINES

Agriculture 1301
Introduction to Agricultural Economics

Course Objective

Upon the successful completion of this course, the student will:

1. Describe and relate examples of economic principles to the field of agriculture.
2. Determine methods of pricing, marketing, and consumption of agricultural products and how economic principles affect pricing, marketing, and the consumption of agricultural products.
3. Apply economic principles and concepts to the assembly of and processing and distribution of products of the agricultural industry.
4. Know the sources and how to use agricultural economic information, economic institutions, and economic organizations.

Course Outline

I. Introduction

   A. The science of economics.

      1. List and explain the steps in the decision making process.
      2. Define economics and explain why economics should be studied.
      3. List the function of an economic system and describe the economic goals of society.
      4. Define microeconomics, macroeconomics, and agricultural economics.
      5. List and describe economic models by type of industry and market.

   B. Relationships between agriculture and the national economy.

      1. Draw and label a circular flow diagram illustrating how households and business firms interact. Explain this diagram.
      2. Define the economic goals of macroeconomics.

         a. List the sequence and endogenous economic problems of agriculture.
         b. Explain the microeconomic adjustments to macroeconomic decisions.

3. Explain the monetary and fiscal policy relationships between agriculture and the national economy.
4. Define the role agriculture plays in the national economy.

C. Agriculture in the U.S.

1. Agricultural systems

   a. Define production agriculture.
   b. Define agribusiness and explain the relationship of agricultural sales, supply, service, and marketing to agricultural production.
   c. Outline the organizational structure of the agricultural marketing system.

2. Structural characteristics of farm industries.

   a. Classify farms and agricultural businesses.
   b. Compare the numbers and sizes of agricultural businesses.

3. Outline methods for measuring agricultural productivity and efficiency.

D. Types of business organizations. Define and give examples of each:

1. Proprietorship
2. Partnership
3. Cooperative
4. Corporation
5. Other control ownership methods

E. Comparative economic systems.

1. Explain the role of government in economic systems.
2. Define and compare the following economic systems:

   a. Capitalism
   b. Communism
   c. Socialism
   d. Mixed systems
   e. Other governmental systems

F. Market structure analysis.

   1. Comparative models.

      a. Define pure competition, list the necessary conditions for its existence and give examples of pure competition.
      b. Define and list examples of monopolistic competition.
      c. Define and list examples of oligopoly and other market models.

   2. List the effects of market structure on the product and on the consumer.

II. Economic Principles of Production

A. Define agricultural production and list the processes concerned with such.

B. Concepts of production function.

   1. Define the following and give examples of each:

      a. Total physical product
      b. Average physical product
      c. Marginal physical product

   2. Explain the importance and need for fixed resources.

C. Supply concepts.

   1. List the factors affecting supply.
   2. List the forces that affect increases, decreases, or shifts in supply.
   3. List the factors that affect the price elasticity of supply.

D. Factors affecting supply.

   1. Outline the factor-product relationship concerned with how much to produce.
   2. The costs of production.

      a. Classify costs.
      b. Compute costs.
      c. Relate costs to production.
      d. Describe profit maximization.
      e. List changes in technology affecting production.
      f. Outline pricing of alternative products.

E. Concepts of elasticity.

   1. Define elasticity of demand and explain what determines elasticity of demand.
   2. Explain the relationship between price elasticity of demand and elasticity of supply.

F. Describe how fixed and variable costs are related to the time factor of production as concerned with long run and short run periods.

G. List and explain the principles of profit maximization.

III. Concepts of the Consumer

A. Define the law of diminishing marginal utility and give examples of such.
B. Define demand and describe this in relation to price and quality.
C. List and give examples of factors that affect demand.

   1. Income
   2. Population
   3. Tastes and preferences.
   4. Price and availability of other products.
   5. Social factors.

D. List the factors that affect the elasticity of demand.
E. List and explain the elasticities for agricultural products.

   1. Equilibrium
   2. Factors causing price change.
   3. Role of prices in resource allocation.
   4. Characteristics of agricultural prices.

IV. Selected Economic Topics

A. Capital in agriculture.

   1. List the types and sources of capital.
   2. List the sources of agricultural credit.
   3. Define and describe the structure and components of the Farm Credit System.
   4. Calculate interest rates.
   5. Define and give examples of compound and discount principles.

B. Natural resources

1. List common property resource problem.
2. Describe agricultural resources available to the producers.

C. Rural development

1. List reasons for the decline of growth in rural areas and communities.
2. List the problems in rural areas.

D. Public policy

1. Define policy.
2. List issues concerning food and farm output.
3. List past and present policy alternatives.
4. Outline the Farm Bill.

E. World trade and agriculture

1. List the basis for foreign trade and outline the U.S. policy.
2. Explain the economic effects of tariffs and quotas.
3. Outline the American agricultural trade system.
4. Define the balance of trade.
5. Outline the global food issues.

V. Definitions. Define the terms as listed in the student text.

Agriculture 1305
Horticulture 1305
General Horticulture

Course Objectives

Upon the successful completion of this course, the student will be able to:

1. Define horticulture as a science.
2. Describe the economic position of horticulture and the utilization of horticultural crops.
3. Discuss the historical perspective of horticulture.
4. Define the fields of horticulture and the relationship of each.
5. Describe the skills and training required for the fields of horticulture.
6. Define common taxonomic terms.
7. Describe how plants grow and list and describe factors affecting plant growth.
8. Describe characteristics of and demonstrate techniques of sexual and asexual reproduction of plants.
9. Characterize insects and groups of pathogens as plant pests.
10. List the principles of pest control.
11. Describe various harvesting, processing, and marketing methods of horticultural crops.
12. List and describe types of growing structures.
13. List and describe production techniques.
14. List and discuss fundamentals required for consideration before beginning a horticultural business.
15. Define the objectives of personnel management.
16. Describe correct communication procedures for horticultural businesses.
17. Identify the types of records necessary for operating a horticultural business.

Course Outline

I. Horticulture as a Science

- A. Define horticulture and the Latin derivative.
- B. List the natural sciences and technologies contained within and involved in the horticulture industry.

II. Economic Position and Utilization of Horticultural Crops

- A. Identify the monetary value of horticulture crops.
- B. Identify the percentage of horticulture crops consumed in the United States.

III. History of Horticulture

A. Summarize, in essay form, the history of horticulture and how it began.
B. Outline developments that advanced plant agriculture and horticulture.
C. List and approximately date advancement made in crop science for this century.

IV. Fields of Horticulture

A. Define and describe the professions contained in the following fields of horticulture.

1. Pomology
2. Olericulture
3. Floriculture
4. Nursery culture
5. Landscape design
6. Interiorscaping
7. Specialized and nontraditional areas

B. Describe the categories of employment of the fields of horticulture listed above.
C. Describe different types of:

1. Nurseries
2. Landscapes

V. Skills and Training Required in the Various Fields of Horticulture

A. Outline the educational requirements of professions within the various fields of horticulture.
B. Identify the training and skills required for the professions within the various fields of horticulture.

VI. Planting, Culture, Care, Harvesting, and Utilization of Horticultural Crops

A. List and define various plant classification systems.
B. Describe the natural classifications for the plant kingdom.
C. Use scientific plant names correctly.
D. Define common taxonomic and professional terms.
E. Describe plants using taxonomic terms.
F. Demonstrate the use of a plant key.

VII. Plant Growth

A. Define:

1. Plant growth
2. Photosynthesis
3. Respiration
4. Transpiration

B. Describe the environmental factors that affect plant growth.
C. Describe how environmental factors affect plant growth.
D. Distinguish between vegetative growth and reproductive growth.
E. Define growth regulators.
F. List and describe functions of both natural occurring and synthetic growth regulators.

VIII. Characteristics and Techniques of Sexual and Asexual Reproduction

A. Describe the characteristics of sexual and asexual reproduction in plants.
B. Describe the process of mitosis and meiosis.
C. List the most common propagation techniques.
D. Discuss methods of plant improvements.
E. List types of media mixes and identify their components.
F. Demonstrate techniques for propagation by use of:

1. Cuttings
2. Seeds
3. Grafting
4. Budding
5. Layering

IX. Insects and Diseases

A. List major causes of injury to plants.
B. Characterize insects as plant pests.
C. Characterize groups of pathogens as plant pests.
D. List common symptoms of injured plants.

X. Pest Control

A. List the principles of pest control.
B. Describe the types of pesticides and their safe use.
C. Explain the concepts of biological controls.

XI. Harvesting Processing and Marketing

A. Describe methods of harvesting different horticultural crops.
B. List changes that occur in harvested produce.
C. Outline the purpose and methods of grading produce.
D. Identify process of market preparation for produce.
E. List methods of transportation and discuss advantages and disadvantages.
F. Outline factors concerning the storage and preservation of produce.
G. Describe the method of food processing.

XII. Growing Structures

A. List and compare the types of growing structures.
B. List the characteristics of greenhouse coverings.
C. List the advantages and disadvantages of different methods of greenhouse heating.
D. Describe the methods of ventilating or cooling a greenhouse.
E. List and describe energy conserving methods used in greenhouses.
F. Diagram greenhouse bench arrangement systems and identify their efficiency.

XIII. Production Techniques

A. Explain the need for a crop production schedule.
B. Describe methods of media pasteurizing.
C. Discuss the need for soil testing.
D. Outline the methods of fertilization, irrigation, and spacing of horticulture crops.
E. Explain techniques of pruning.
F. Identify the need for the development of production schedules.

XIV. Starting Your Own Business

A. Describe the forms of business ownership.
B. Explain the use and value of market surveys.
C. List some sources of capital.
D. List factors to consider in selecting a site for a business.
E. Outline the major laws and regulations affecting horticultural businesses.
F. Describe the methods, values, and limitations of advertising.
G. List characteristics of effective advertising.
H. List characteristics of effective displays.

XV. Personnel Management

A. Define and list the objectives of personnel management.
B. List the characteristics of a good personnel manager.
C. List the characteristics of a good salesperson.
D. Describe an effective sales procedure.

XVI Business Communications

A. List the parts of a business letter.
B. Outline how to place a business telephone call correctly.
C. Outline how to answer a business telephone call correctly.

XVII. Record Keeping

A. List four characteristics of a good record keeping system.
B. List the four types of business records kept.
C. Define the profit and loss statement.
D. Define the balance sheet.
E. Describe the approaches to pricing merchandise and services.
F. List the advantages and disadvantages of the applications of computers in horticultural businesses.

Horticulture 1314
Plant Identification I
Trees, Shrubs, Vines, and Ground Cover

Course Objectives

Upon the successful completion of this course, the student will:

1. Identify plants using their morphology.
2. Classify plants using growth habits, leaf bearing habit, life span, and temperature tolerance.
3. Identify plants using both the common and scientific name.
4. Be able to prove information on landscape use and propagation of plants.
5. Be able to locate areas of distribution better suited for the particular plants growth.
6. Be able to identify plants from live specimens in the field, landscape, or container plants and from photographs or slides.

Course Outline

I. Plant Morphology

- A. Identify and define plant forms.
- B. Identify, define, and label major parts of the external anatomy of the plant.
- C. Identify common leaf shapes.
- D. Identify leaf tips.
- E. Identify leaf margins.
- F. Identify leaf types.
- G. Identify types of flower arrangement.
- H. Identify types of flowers.
- I. Identify individual flower parts.

II. Plant Classification

- A. Classify plants according to form.
- B. Classify plants according to growth habits.
- C. Classify plants according to leaf bearing habits.
- D. Classify plants according to life span.
- E. Classify plants according to temperature tolerance.
- F. Classify plants according to flowering characteristics.

III. Plant Propagation and Uses

- A. Identify the best method of propagation of the listed plants.
- B. List the uses for the listed plants.
- C. Label areas of distribution for listed plants.

IV. Identification

A. Use common name, genus, and species.
B. Spell names correctly.
C. Use the following list:

TREES

1.	Acacia Farnesiana	Sweet Acacia (Huisache)
2.	Acer palmatum	Japenese Maple
3.	Acer rubrum	Red or Swamp Maple
4.	Acer saccharinum	Silver Maple
5.	Acer saccharinum subsp. grandidentatum	Big Tooth Maple
6.	Albizia Julibrissin	Mimosa (Silk) Tree
7.	Betula nigra	River or Black Birch
8.	Carya illinoinensis	Pecan
9.	Catalpa bignoniodes	Southern Catalpa
10.	Celtis occidantalis	Common Hackberry
11.	Cercis canadensis	Eastern redbud
12.	Cedrus deodara	Deodar Cedar
13.	Chamaerops humulis	Mediterranean Fan Palm
14.	Chilopsis linearis	Desert Willow
15.	Citrus	(Species)
16.	Cupressus sempervirens 'Glauca'	Italian Cypress
17.	Eriobotrya japonica	Loquat (Japanese Plum)
18.	Fraxinus velutina	Arizona Ash
19.	Ginko biloba	Ginko (Maidenhair tree)
20.	Gleditsia triacanthos	Common Honey Locust
21.	Gleditsia triacanthos inermis	Thornless Honey Locust
22.	Ilex vomitoria	Yaupon Holly
23.	Juniperus scopulorum	Rocky Mountain Juniper
24.	Juniperus virginiana	Red Cedar
25.	Koelreuteria paniculata	Golden Rain Tree
26.	Lagerstroemia indica	Crape Myrtle
27.	Ligustrum lucidum	Japenese Ligustrum
28.	Liquidambar Styraciflua	American Sweet Gum
29.	Magnolia grandiflora	Southern Magnolia
30.	Melia Azedarach	Chinaberry
31.	Morus alba (Male)	Fruitless Mulberry
32.	Parkinsonia aculeata	Retama
33.	Phoenix canariensis	Canary Island Date Palm
34.	Pinus cembroides	Pinon Pine
35.	Pinus halepensis	Aleppo Pine
36.	Pinus thumbergiana	Japenese Black Pine
37.	Pistacia chinensis	Chinese Pistachio
38.	Platanus occidentalis glabrato	Texas Sycamore
39.	Populus deltoides	Cottonless Cottonwood
40.	Porsopis juliflora	Honey Mesquite
41.	Prunus cerasifera	Purple-leaf Plum
42.	Prunus persica	Common Peach
43.	Pyrus calleryana	Bradford (Callery) Pear
44.	Quercus macrocarpa	Burr Oak

45.	Quercus marilandica	Blackjack Oak
46.	Quercus nigra	Water Oak
47.	Quercus palustrus	Pin Oak
48.	Quercus phellos	Willow Oak
49.	Quercus rubra	Red Oak
50.	Quercus Shumardii	Shumard's Red Oak
51.	Quercus stellata	Post Oak
52.	Quercus texana	Texas Red Oak
53.	Quercus virginiana	Live Oak
54	Salix babylinica	Weeping Willow
55.	Sapium sebiferum	Chinese Tallow
56.	Taxodium distichum	Bald Cypress
57.	Ulmus americana	American Elm
58.	Washington robust	Mexican Fan Palm

SHRUBS

1.	Abelia grandiflora	Glossy Abelia
2.	Agave americana	Century Plant
3.	Acuba japonicavariegata	Gold Dust Plant
4.	Berberis Thunbergii	Japenese Barberry
5.	Buxus micropylla japonica	Japenese Boxwood
6.	Cleyera japonica	Cleyera
7.	Cortederia selloana	Pampas grass
8.	Cotoneaster glaucphyllus	Silverleaf Cotoneaster
9.	Dasylirion texanum	Texas Sotol
10.	Eleagnus macrophylla "Ebbengi"	Silverberry
11.	Eriobotrya japonica	Loquat
12.	Chamaerops humulis	Mediterranean Fan Palm
13.	Euonymus japonica	Evergreen Euonymus
14.	Euonymus japonica aureo-marginata	Gold-Edge Euonymus
15.	Euonymus japonica aureo-variegata	Goldspot Euonymus
16.	Fouquieria splendens	Ocotillo
17.	Hisbiscus rosa-sinensis	Chinese Hibiscus
18.	Hibiscus syriacus	Althea (Rose of Sharon)
19.	Ilex cornuta	Chinese Horned Holly
20.	Ilex cornuta cv. "Burfordii"	Burford Holly
21.	Ilex cornuta cv. "Rotunda"	Dwarf Chinese Holly
22.	Ilex vomitoria	Yaupon Holly
23.	Ilex vomitoria cv. "Nana"	Dwarf Yaupon Holly
24.	Juniperus chinensis "Pfitzerana"	Pfitzer Juniper
25.	Lagerstroemia indica	Crepe Myrtle
26.	Lantana Camara	Lantana
27.	Leucophyllum frutescens	Ceniza (Purple Sage)
28.	Ligustrum japonicum	Japanese Ligustrum
29.	Ligustrum lucidum	Waxleaf Ligustrum
30.	Myrica cerifera	Wax Myrtle

31.	Nandina domestica	Heavenly Bamboo (Nandina)
32.	Nerium oleander	Oleander
33.	Photinia Fraseri	Fraser's Photinia
34.	Photina glabra	Japanese Photinia
35.	Photina serrulata	Chinese Photinia
36.	Pittosporum tobira	Green Pittosporum
37.	Pittosporum tobira variegata	Variegated Pittosporum
38.	Pumbago auriculata	Blue Plumbago
39.	Podocarpus macrophyllus	Large Leaf Japanese Yew
40.	Podocarpus macrophyllus var. Makii	Small Leaf Japanese Yew
41.	Punica granarum	Pomegranate
42.	Pyrancantha coccinea	Pyrancantha
43.	Raphiolepis indica	Indian Hawthorne
44.	Rhododendron indicum	Indica Azalea
45.	Rhododendron hybrids	Kurume Azalea
46.	Rhus glabra	Smooth Sumac
47.	Rosmarinus officinalis	Rosemary
48.	Santolina chamaecyparissus	Santolina Gray
49.	Santolina virens	Santolina Green
50.	Sophora secundiflora	Texas Mountain Laurel
51.	Viburnum japonicum	Japanese Viburnum
52.	Wisteria floribunda	Wisteria Japanese
53.	Yucca aloifolia	Spanish Bayonet
54.	Yucca parviflora	Red Yucca

VINES AND GROUND COVER

1.	Agapanthus africanus	Lili-of-the-Nile
2.	Ajuga reptans	Carpet Bugle
3.	Aspidistra elatior	Cast Iron Plant
4.	Bifnonia radicans grandiflora	Yellow Trumpetvine
5.	Bougainvellea sp.	Bougainvillea
6.	Dichondra repens	Dichondra
7.	Euonymus fortunei "colorata"	Purpleleaf Wintercreeper
8.	Ficus pumila	Climbing Fig
9.	Gelsemium sempervirens	Carolina Jasmine
10.	Hedera helix	English Ivy
11.	Hemerocallis sp.	Daylily
12.	Lantana montevidensis	Trailing Lantana
13.	Lirope Muscari	Big Blue Lilyturf
14.	Lonicera japonica "Halliana"	Hall's Honeysuckle
15.	Lonicera semperivirens	Coral Honeysuckle
16.	Ophiopagon japonicus	Monkey or Mondo Grass
17.	Rosmarinus officinalis	Rosemary
18.	Sedum (varieties)	Stonecrop
19.	Trachelospermum asiaticum	Asian Jasmine
20.	Trachelospermum jasminoides	Star Jasmine

21.	Verbena peruviana	Garden Verbena
22.	Verbena pulchella	Sand Verbena
23.	Vinca major	Bigleaf Periwinkle
24.	Vinca minor	Littleleaf Periwinkle
25.	Wisteria (species)	Wisteria

VIII. REFERENCE MATERIAL LISTS

The following lists of reference materials are identified by secondary course.

In addition, a general reference list is provided to be used as supplemental references to those listed for the courses.

Instructional Materials Service
Agriscience 101 References

Catalog Number	Title
4906	Teacher's Key - AgSc 101
CG101	Curriculum Guide for AgSc 101
2101	Transparencies for AgSc 101
8350	Supply and Demand of Food and Fiber
8351	Renewable and Nonrenewable Agricultural Resources
8352	The Impact of Agriculture on World Economy
8353	Interdependency of Agriculture and Society
8354	Key Developments Shaping World Agriculture
8355	Key Developments Shaping US Agriculture
8356	Factors Affecting World Trade
8357	The Impact of Agriculture as a Political Tool
8358	Environmental Concerns in Agriculture
8359	Methods of Protecting the Environment
8360	The Effects of the Environment on Agriculture
8361	World Food Chain - From Production to Consumption
8362	World Fiber Chain - From Production to Consumption
8363	Impact of Research and Development in Ag Science and Technology
8364	Research and Development Techniques for Class and Laboratory
8365	Developing Professionalism and Ethics
8366	Using Proper Etiquette and Behavior
8367	Exploring Personal Relations
8368	Practicing Good Grooming and Health Habits
8369	Understanding Importance of Effective Communication - Spoken Word
8370	Understanding Importance of Effective Communication - Written Word
8371	Improving Communication Skills Through Organized Activities
8372	Utilizing the Media for Effective Communication - Public Relations
8373	Importance and Procedures of Keeping Accurate Records
8374	Importance and Use of Budgeting
8375	Importance and Procedures of Personal Finance
8376	Types of Supervised Agricultural Experience
8377	Characteristics of Successful Agricultural Programs
8378	Planning Supervised Agricultural Experience Programs

Instructional Materials Service
Agriscience 102 References

Catalog Number	Title
4907	Teacher's Key - AgSc 102
CG102	Curriculum Guide for AgSc 102
2102	AgSc 102 Transparencies
K102	Teacher's Key to Topic Tests for AgSc 102
T102	Topic Tests for AgSc 102
8380	Importance and Formation of Soils
8381	Soil Formations
8382	Components and Properties of Soil
8383	Soil Classification Systems
8384	Plant Structure and Functions of Plant Parts
8385	Plant Growth and Development: Seed Germination
8386	Plant Growth and Development: Production, Use, Storage of Food
8387	Plant Genetics
8388	Sexual and Asexual Reproduction of Plants
8389	Plant Breeding
8390	Plant Recognition: Classification and ID of Field Crop Plants
8391	Animal Growth and Development
8392	Anatomy and Physiology of Animals
8393	Breeds of Beef Cattle
8394	Breeds of Swine
8395	Breeds of Sheep
8396	Breeds of Dairy Cattle
8397	Classes, Breeds, and Varieties of Poultry
8398	Breeds of Horses
8399	Selecting Beef Cattle
8400	Selecting Swine
8401	Selecting Sheep
8402	Selecting Dairy Cattle
8403	Selecting Poultry
8404	Selecting Horses
8405	Animal Reproduction
8406	Animal Genetics
8407	Methods of Animal Breeding
8408	Importance of Food Science Technology
8409	Trends in Food Production
8410	Identifying Major Areas of Agricultural Mechanics
8411	Identifying Safety and Laboratory Procedures
8412	Performing Basic Skills in Agricultural Construction
8413	Identifying Lumber and Computing Bill of Materials
8414	Identifying and Using Fasteners
8415	Agricultural Chemicals and the Environment
8416	Proper Use of Agricultural Chemicals
8417	Alternative Energy Sources
8418	Energy Conservation
8419	Water Conservation

Instructional Materials Service
Agriscience 221 References

Catalog Number	Title
0116	Agricultural Mechanization Technical Information
2511	Agricultural Mechanization Transparencies
4629	Agricultural Mechanics: Fundamentals and Application
4908	Teacher's Key - AgSc 221
CG221	Curriculum Guide for AgSc 221
K221	Teacher's Key to Topic Tests for AgSc 221
T221	Topic Tests for AgSc 221
8412	Performing Basic Skills in Agricultural Construction - Tools
8413	Identifying Lumber & Computing Bill of Materials
8414	Identifying and Using Fasteners
8600	Agricultural Mechanics: Importance, Safety & Lab Management
8601-A	Identifying & Using Power Tools
8601-B	Measuring & Marking Devices
8602-A	Electrical Principles & Terminology
8602-B	Electrical Wiring
8603	Pipe, Plumbing, & Water Systems
8604-A	Estimating Materials Needed for Concrete
8604-B	Placing, Reinforcing, Finishing, & Curing Concrete
8605-A	Cost Effective Construction - Materials
8605-B	Cost Effective Construction - Plans
8606	Materials and Painting Techniques
8607	Fencing Materials & Construction
8608	Identifying, Cutting, Drilling, Shaping, & Filing Metal
8609-A	Oxyfuel Welding & Cutting
8609-B	Arc Welding - Introduction & Fundamentals
8609-C	Arc Welding - Basic Steps
8609-D	Arc Welding - Joints, Positions, Uses

Instructional Materials Service
Agriscience 261 References

Catalog Number	Title
0115A	Horticulture Leadership, Employment, Entrepreneurship, Careers
0115B	Horticulture Safety and Occupational Equipment Technical Information
0115C	Horticulture Exploratory Skills Technical Information
2361A	Horticulture-Leadership/Employment/Entreprenuership/Careers Transparencies
2361B	Horticulture Safety and Occupational Equipment Transparencies
2361C	Horticulture Exploratory Skills Transparencies
CG261	Curriculum Guide for 261

Instructional Materials Service
Agriscience 311 References

Catalog Number	Title
4773	Farm and Ranch Business Management
CG311	Curriculum Guide for AgSc 311
4914	Teacher's Key for AgSc 311
8706-A	Importance of Agriculture
8706-B	Management Roles & Functions
8706-C	Management Decision-Making
8706-D	Goals and Objectives
8707-A	Economic Systems
8707-B	Supply & Demand
8707-C	Production Economics: Maximizing Profits
8708-A	Income & Cost of Production
8708-B	Enterprise Budgets
8708-C	Total Budgeting
8708-D	Partial Budgeting
8709-A	Management Information Systems
8709-B	Accounting
8709-C	Balance Sheet
8709-D	Income Statement
8709-E	Cash Flow Statement
8709-F	Financial Statement Analysis
8709-G	Income Taxes and Social Security
8709-H	Production Records
8709-I	Depreciation
8710-A	Obtaining Capital Resources
8710-B	Importance & Types of Credit
8710-C	Agricultural Loan Institutions
8710-D	Computing Interest
8710-E	Types of Loans
8711-A	Business Legal Structures
8711-B	Agricultural Laws and Regulations
8711-C	Legal Documents
8712-A	Risk Management
8712-B	Types of Insurance
8713-A	Past Agricultural Policy
8713-B	Recent & Current Agricultural Policies
8714-A	Purpose and Importance of Marketing
8714-B	The Competitive Environment
8714-C	Domestic and International Marketing Factors
8714-D	Types of Agricultural Markets
8714-E	Marketing Alternatives for Production Agriculture
8714-F	Forward Contracting: Cash and Futures
8714-G	Effects of Government Programs
8715-A	Use & Selection of Computers - Agribusiness
8716-A	Employee Benefits
8716-B	Employer/Employee Relationships
8721-A	Management Roles and Functions
8721-B	Management Goals and Decision Making
8721-C	Managing Risk and Uncertainty
8722-A	Economic Systems, Money Price, and Government Policy
8722-B	Economics: Supply and Demand

Instructional Materials Service
Agriscience 312 References

Catalog Number	Title
CG312	Curriculum for AgSc 312
4915	Teacher's Key for AgSc 312
8736-A	Self Concept
8736-B	Social Skills
8736-C	Professional Image
8737-A	Leaders and Leadership
8737-B	Leadership Styles
8738-A	Personal Leadership Potential
8738-B	Basic Human Needs
8738-C	Motivation and Influence
8738-D	Preparing Resumes and Applications
8739-A	Job Interviews
8739-B	Employer Expectations
8739-C	Work Related Ethics
8739-D	Working with Co-Workers
8740-A	Job Applicants
8740-B	Evaluation of Employees
8740-C	Complaints and Appeals
8740-D	Employee Obligations
8740-E	Business Related Ethics
8741-A	The Communication Process
8741-B	Barriers to Communication
8741-C	Written Communication
8741-D	Verbal Communication
8741-E	Non Verbal Communication
8741-F	Listening
8741-G	Working with Diverse Groups
8741-H	Group Discussions
8741-I	Successful Meetings
8741-J	Friends and Friendship
8742-A	Organizing Groups
8742-B	Program of Activities
8742-C	Decision Making
8742-D	Problem Solving
8742-E	Personal Goals
8742-F	Time Management

Instructional Materials Service
Agriscience 362 References

Catalog Number	Title
0104	Landscaping Plant Classification
4330	Roses - Planting, Pruning, and Landscaping
4331	Texas Master Gardener Handbook
4332	Plants of the Metroplex III
4925	Teacher's Key for AgSc 362
CG362	Curriculum Guide for AgSc 362
8927-A	Recognizing Plant Characteristics Used to Classify, Name, and Identify Plants
8927-B	Classifying and Identifying Greenhouse and Nursery Plants
8928-A	Safety in Horticultural Plant Production
8929-A	Identifying, Maintaining, and Storing Tools and Equipment Used in Horticultural Plant Production
8930-A	Vegetative Plant Structures and Their Functions
8930-B	Reproductive Plant Structures and Their Functions
8930-C	Seed Germination
8930-D	Propagating Plants Asexually
8931-A	Selecting and Preparing Plant Growing Media
8931-B	Using Mulches and Compost
8931-C	Sterilizing Plant Growing Media
8931-D	Selecting and Growing Greenhouse Plants
8931-E	Selecting and Growing Nursery Plants
8931-F	Fertilizing Greenhouse and Nursery Plants
8931-G	Watering Greenhouse and Nursery Plants
8931-H	Managing Pests of Greenhouse and Nursery Plants
8932-A	Scheduling Greenhouse Potted Crops and Nursery Container Crops
8932-B	Marketing Techniques Related to Horticultural Plant Production
8933-A	Considerations for Locating and Building a Greenhouse or Nursery
8933-B	Selecting Structures Used for Propagating and Growing Greenhouse and Nursery Plants
8933-C	Selecting Equipment Required for Controlling the Environmental Conditions of Horticultural Plants
8933-D	Selecting Containers for Horticultural Crops
8933-E	Maintaining Structures and Equipment Used in Horticultural Plant Production
8934-A	Controlling the Environmental Conditions of Horticultural Plants
8934-B	Lighting and Shading Greenhouse and Nursery Plants

Instructional Materials Service
Agriscience 363 References

Catalog Number	Title
4327	Arranging Cut Flowers
4328	Principles of Floral Design
4329	Floral Designing and Arrangement
4926	Teacher's Key for AgSc 363
CG363	Curriculum Guide for AgSc 363
8943-A	Identifying Flowers and Foliage Used in Floral Designs
8943-B	Identifying Tropical Foliage Plants and Blooming Plants Used in Interior Landscape Development
8944-A	Techniques of Increasing Keeping Qualities of Flowers/Plants
8945-A	History of Floral Design
8946-A	Floral Design Principles
8946-B	Color Harmony in Floral and Interior Landscape Design
8947-A	Material Selection and Design Mechanics for Arranging Cut Flowers
8947-B	Preparing Symmetrical Arrangements with Fresh Cut Flowers
8947-C	Preparing Asymmetrical Arrangements with Fresh Cut Flowers
8947-D	Preparing Round Arrangements with Fresh Cut Flowers
8948-A	Material Selection and Design Mechanics for Arranging Dried and Everlasting Flowers
8948-B	Preparing Two-Dimensional Pressed Flower Pictures - Dry Flowers
8948-C	Preparing Three-Dimensional Arrangements With Silk and Dry Flowers
8949-A	Selecting Flowers, Foliage Materials, and Design Principles for Preparing Corsages and Boutonnieres
8949-B	Wiring Flowers and Foliage
8949-C	Constructing Bows
8949-D	Preparing Football Chrysanthemum Corsages
8949-E	Constructing Boutonnieres and Corsages
8950-A	Floral Designs for Holidays, Banquets, and Other Special Occasions
8951-A	Safety in Floral Design and Interior Landscaping
8953-A	Managing the Interior Landscape Environment
8953-B	Watering and Fertilizing Interior Plants
8953-C	Managing Pests and Diseases of Interior Plants
8953-D	Pruning Interior Landscape Plants
8954-A	Functional Uses of Interior Plants and Interior Landscape Design Principles
8954-B	Using Line, Form, Texture, and Color in Interior Landscape Development
8955-A	Designing Interior Landscapes for Commercial Mall Sites and for Small Commercial Clients
8956-A	Pricing Interior Landscaping Services

Horticulture References

Instructional Materials Service
Texas A&M University
F.E. Box 2588
College Station, Texas 77843
(409) 845 - 6601

Catalog Number	Title
0031A	Horticultural Occupations
0031B	Key - Horticultural Occupations
0102	Lab Exercises in Horticulture
0104	Landscape Plant Classification
0107	Propagating Horticulture Plants
0109	Greenhouse Operation and Management
0110	Ornamental and Nursery Plant Production
0113	CVAE-VEH Horticulture
0201	Basic Gardening Illustrated
0207	Lawns and Groundcovers
2358	Greenhouse Operation and Management (Transparencies)
2359	Ornamental and Nursery Plant Production (Transparencies)
2360	CVAE-VEH Horticulture (Transparencies)
2361-A	Horticultural Leadership/Employment/Entrepreneurship/ Careers Transparencies
2361-B	Horticulture Safety & Occupational Equipment Transparencies
2361-C	Horticulture Exploratory Skills Transparencies
4303	Applying Pesticides
4304	Fertilizing and Watering Shade and Ornamental Trees
4311	Selecting Trees for Home Planting
4312	Transplanting Shade Trees
4313	Pruning Fruit Trees
4314	Controlling Plant Growth
4316	Growing Plants Indoors
4319	Teacher's Guide - Applying Pesticides
4321	The Greenhouse Worker
4322	Samson's Tree Identifier
4324	Landscaping Illustrated
4325	Fresh Produce
4326	Vegetable Gardening Illustrated
4327	Arranging Cut Flowers
4328	Principles of Floral Design
4329	Floral Designing and Arrangement
4330	Roses - Planting and Care/Pruning/Landscaping
4331	Texas Master Gardener Handbook
4332	Plants of the Metroplex III
5312	1979 Pecan Propagation (Slides)
5313	1979 Greenhouse Management (Slides)
5315	1979 Plants for High School Greenhouse (Slides)
5316	1979 Propagation of Greenhouse Plants (Slides)
5320	1981 Greenhouse Crops (Slides)

Instructional Materials Service
Texas A&M University
F.E. Box 2588
College Station, Texas 77843
(409) 845 - 6601

Catalog Number	Title
5322	Common Vegetable and Household Insects (Slides)
5324	1981 Applying Pesticides Kit (Slides)
5327	1979 Nursery Plant Identification (Slides)
5328	1978 Air Layering (Slides)
5329	1980 Planting and Care of Hanging Baskets (Slides)
5330	1980 Planting, Protecting Existing Features, Drainage/Driveways (Slides)
5331	1980 Ground Covers and Their Uses (Slides)
5332	1980 Selecting Trees for Landscaping Use (Slides)
5334	1980 Pruning Evergreens (Slides)
5335	1980 Objectives of Pruning Deciduous Trees (Slides)
5336	1980 Mechanical Digging of Trees and Shrubs (Slides)
5337	1980 Hand Digging of Trees and Shrubs (Slides)
5338	1980 Walks, Steps, Retaining Walls - Landscaping (Slides)
5345	1980 State FFA Floriculture Contest (Slides)
5346	1980 State FFA Nursery/Landscape Contest (Slides)
5347	1984 State FFA Floriculture Contest (Slides)
5348	1984 State FFA Nursery/Landscape Contest (Slides)
5349	1987 State FFA Floriculture Contest (Slides)
5350	1987 State FFA Nursery/Landscape Contest (Slides)
5351	1990 State FFA Floriculture Contest
5352	1990 State FFA Nursery/Landscape Contest
6304	Identification of Weeds, Part I
6305	Identification of Weeds, Part II
6306	Fertilizing and Watering Shade and Ornamental Trees (Filmstrip)
6307	Garden Flowers, Annuals, Part I (Filmstrip)
6308	Garden Flowers, Annuals, Part II (Filmstrip)
6309	Foliage Plant Identification, Part I (Filmstrip)
6310	Foliage Plant Identification, Part II (Filmstrip)
6311	Foliage Plant Identification, Part III (Filmstrip)
6312	Greenhouse Uses and Design (Filmstrip)
7022	Nursery/Landscape Plant Identification (5" x 7") (Flash Cards)
8320	Ornamental Horticulture Skill Sheets, Set No. 1
8321	Ornamental Horticulture Skill Sheets, Set No. 2
9106	Apple II Plus - Horticulture Review (Computer Program)
9143	Apple II Plus - Sexual Plant Propagation (Computer Program)
9144	IBM-PC - Sexual Plant Propagation (Computer Program)
9166	Apple - Agri ID - The Leaf (Computer Program)
9167	Apple - Agri ID - The Plant (Computer Program)
9179	Apple II+/E/C - Asexual Plant Propagation (Computer Program)
9607	Basic Landscaping (VHS Video)
9608	Underground Sprinkler Systems (VHS Video)

Instructional Materials Service
Texas A&M University
F.E. Box 2588
College Station, Texas 77843
(409) 845 - 6601

Catalog Number	Title
9609	Floral Design (VHS Video)
9678	Growing Beautiful Lawns (VHS Video)
9679	Growing Beautiful Roses (VHS Video)
9687	Caring for Your Lawn (VHS Video)
9694	Wedding and Anniversary Flowers (VHS Video)
9695	Formal and Informal Flowers (VHS Video)
9696	Flower Arranging for the Home (VHS Video)
9697	Holiday Wreath and Floral Design (VHS Video)
9698	Design, Soil Preparation and Planting (VHS Video)
9699	Lawn Installation and Maintenance
9700	Pruning and Plant Care (VHS Video)
9701	Low Maintenance Landscapes (VHS Video)
9702	Selecting Fruit and Shade Trees
9747	Field Trip/The Greenhouse

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MAVCC - Mid-America Vocational
Curriculum Consortium
Occupational Curriculum Lab
East Texas State University
Commerce, Texas 75428
(214) 886 - 5624

301701	Landscape Management Field Operator Teacher's Guide
301702	Landscape Management Field Operator Student Manual
301703	Landscape Management Field Operator Transparency Set
301801	Landscape Management Field Specialist Teacher's Guide
301802	Landscape Management Field Specialist Student Manual
301803	Landscape Management Field Specialist Transparency Set
301901	Landscape Management Field Supervisor Teacher's Guide
301902	Landscape Management Field Supervisor Student Manual
301903	Landscape Management Field Supervisor Transparency Set

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Curriculum Publications Clearinghouse
Western Illinois University
Harrabin Hall 46
Macomb, Illinois 61455

108	Competency Based Curriculum Guide in High School Horticulture
177	Competency Based Horticulture
342b	Education for Employment Task Analysis for Agricultural Occupations - Horticulture
326b	Education for Employment Task Lists - Horticulture Cluster

V-Tech Catalogs

V-97	Crop Production: Vegetable Grower
V-154	Floriculture Worker, Retail Flower Shop Salesperson, and Floral Designer
V-92	Garden Center Salesperson, Garden Center Worker, Landscape Worker, and Landscape Designer
V-25	Gardening/Groundskeeping
V-40	Nursery Production
V-156	Ornamental Horticulture Production Occupations
V-56	Turfgrass Maintenance Workers
V-96	Crop Production: Orchardist

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Hobar Publications
1234 Tiller Lane
St. Paul, Minnesota 55112
(612) 633 - 3170

Computer Programs

AP2 - AG70 II+,IIe,IIc   Horticulture and Related Review
AP2 - AG70 - 3.5 IIGS
IBM - AG70 IBM PC MS-DOS
IBM - AG70 - 3.5 IBM PC
TRS - AG70 TRS 80 III,4
MAC - AG70

AP2 - AG73 II+,IIe,IIc   Introductory Horticulture Review I
AP2 - AG73 - 3.5 IIGS
IBM - AG73 IBM PC MS-DOS
IBM - AG73 - 3.5 IBM PC
TRS - AG73 TRS 80 III,4
MAC - AG73

AP2 - AG74 II+,IIe,IIc   Introductory Horticulture Review II
AP2 - AG74 - 3.5 IIGS
IBM - AG74 IBM PC MS-DOS
IBM - AG74 - 3.5 IBM PC
TRS - AG74 TRS 80 III,4
MAC - AG74

AP2 - AG75 II+,IIe,IIc   Introductory Horticulture Review III
AP2 - AG75 - 3.5 IIGS
IBM - AG75 IBM PC MS-DOS
IBM - AG75 - 3.5 IBM PC
TRS - AG75 TRS 80 III,4
MAC - AG75

AP2 - AG73 II+,IIe,IIc   Plant Nutrients, Fertilizers, and Related Review
AP2 - AG73 - 3.5 IIGS
IBM - AG73 IBM PC MS-DOS
IBM - AG73 - 3.5 IBM PC
TRS - AG73 TRS 80 III,4
MAC - AG73

AP2 - AG73 II+,IIe,IIc   Soil Evaluation, Fertility, and Related Review
AP2 - AG73 - 3.5 IIGS
IBM - AG73 IBM PC MS-DOS
IBM - AG73 - 3.5 IBM PC
TRS - AG73 TRS 80 III,4
MAC - AG73

Hobar Publications
1234 Tiller Lane
St. Paul, Minnesota 55112
(612) 633 - 3170

55472	Apple IIe	Ortho's Computerized Gardening
24533	Apple IIc	
35144	IBM PC	
27258	Commodore 64	

VHS Videos

15400767	Strawberry Production: Introduction and Growing Technology
15400768	Strawberry Production: Growing Technology from Field to Market
15400865	Both of the Above
15400771	Tomato Production: Pest Control
15400772	Tomato Production: Harvesting and Handling
15400866	Both of the Above
H-75032	Transplanting a Tomato
H-VT1029	Roses
H-VT1031	Ground Covers
H-VT1027	Lawn Care
H-75114	Master Gardener Program
H-VT1026	Vegetable Gardening
H-VT1032	Basic Gardening
H-75374	Grafting Apple Trees
H-VT1106	Pruning
H-VT1081	Indoor Plants
H-VT1028	Annuals and Hanging Baskets
H-FA-1002	Flower Arranging: Advanced Centerpieces, One-Sided and Layered "Mass" Designs
H-FA-1005	Flower Arranging: Basic Christmas Designs - Nosegays and Centerpieces
H-FA-1006	Flower Arranging: Christmas Designs - Wreaths, Wall Hangings, and Novelty Arrangement
H-FA-1004	Flower Arranging: Miniatures, Stylized (Sculptured) and Oriental Designs
H-FA-1001	Flower Arranging: Nosegays, One-Sided and Centerpiece Designs
H-FA-1003	Wall Hangings

Texts and Other References

0382-6	Ball RedBook
029538-8	American Style Flower Arranging
043935-5	Arboriculture
394809-9	Horticulture: Principles and Practical Application
7887-7	Lab Manual for Turfgrass Management
521667-2	Landscape Design
5771-3	Practical Horticulture
G-95201	Greenhouse Gardening

Hobar Publications
1234 Tiller Lane
St. Paul, Minnesota 55112
(612) 633 - 3170

G-95202	Greenhouse Gardening - Teacher's Guide
9512	Mathematics for Horticulture
9513	Mathematics for Horticulture - Teacher's Guide
711-722	Horticultural Competency Worksheets
978	Competency Based Horticulture
725-736	Nursery Worksheets
701-708	Horticultural Tool Maintenance Worksheets
UPC 05506	All About Vegetables
UPC 05255	All About Annuals
UPC 05273	All About Perennials
UPC 05335	All About Roses
UPC 05285	All About Pruning
UPC 05302	All About Lawns
UPC 05535	All About Growing Fruits and Berries
UPC 05223	All About Houseplants
UPC 05320	How to Select and Care for Shrubs and Hedges
UPC 05315	All About Landscaping
UPC 05280	All About Ground Covers
UPC 05258	All About Bulbs
UPC 05933	How to Select, Use, and Maintain Garden Equipment

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Teaching Aids Inc.
P.O. Box 1798
Costa Mesa, California 92628-7098

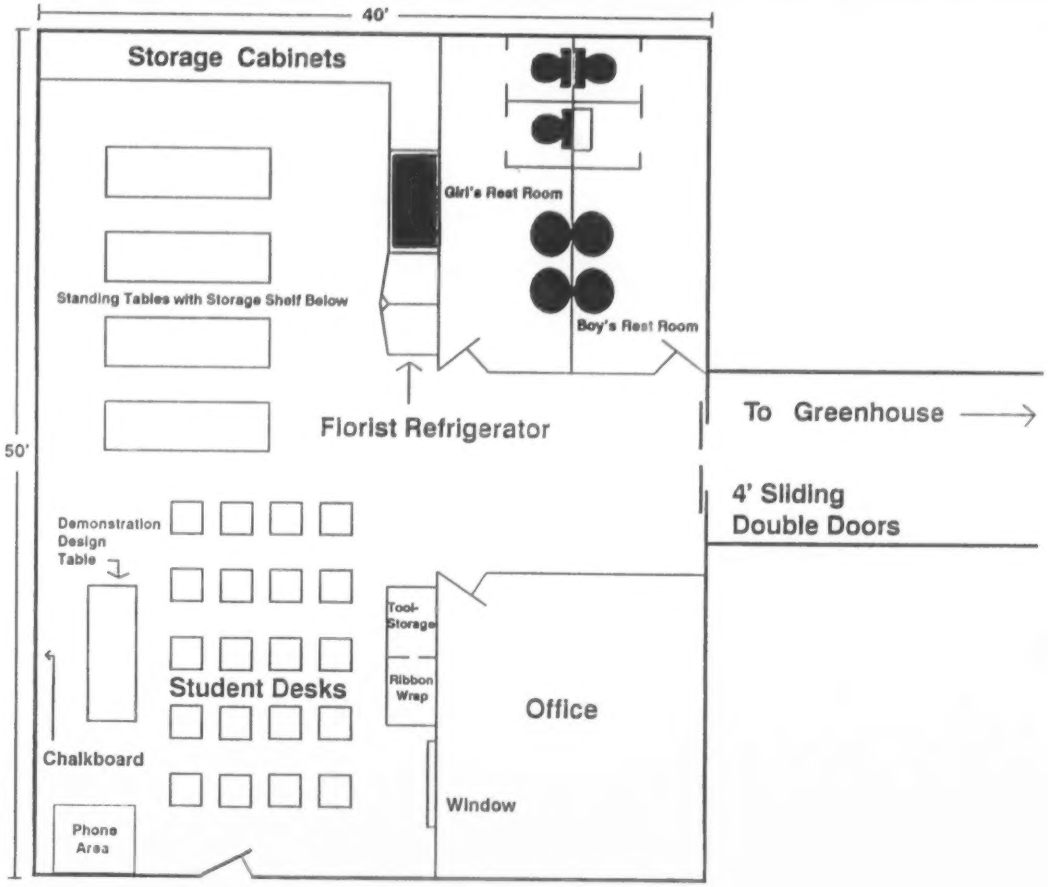
R-VT1039	Flower Arranging Made Simple, Part 1: Basics of Arranging (VHS Video)
R-VT1040	Flower Arranging Made Simple, Part 2: Materials Selection and Arrangement Styles (VHS Video)

IX. LINE DRAWING OF RECOMMENDED SECONDARY FACILITY

The following is a line drawing of the recommended classroom and greenhouse facilities for the 2+2 program in retail florist management.

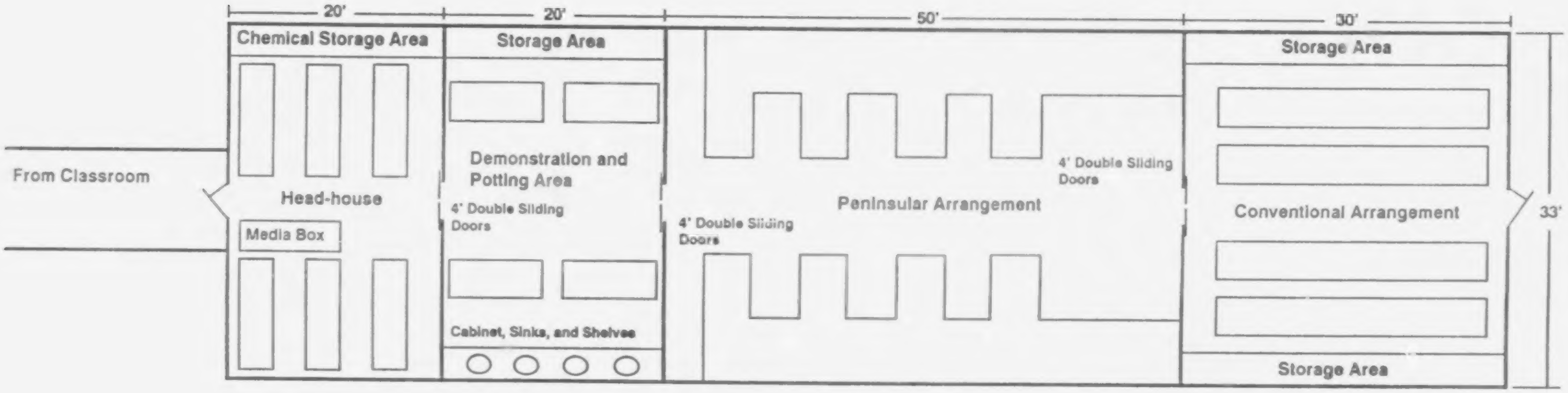
RECOMMENDED SECONDARY FACILITIES FOR HORTICULTURAL MANAGEMENT TRAINING

Scale: 1/4" = 2'


40'
50'
Storage Cabinets
Girl's Rest Room
Standing Tables with Storage Shelf Below
Boy's Rest Room
Florist Refrigerator
To Greenhouse
4' Sliding Double Doors
Demonstration Design Table
Tool-Storage
Ribbon Wrap
Student Desks
Office
Chalkboard
Window
Phone Area

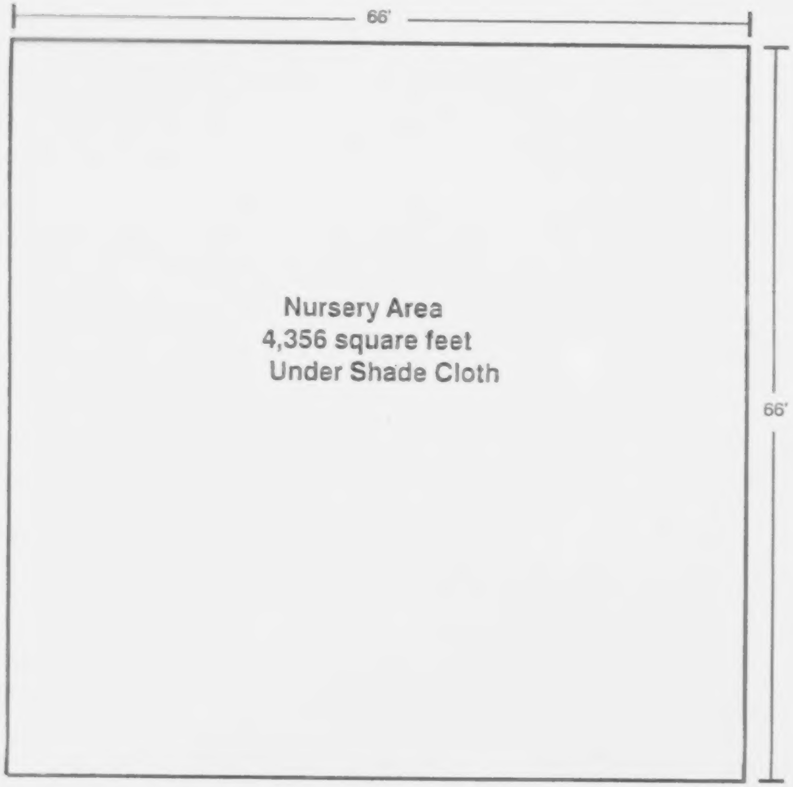
RECOMMENDED SECONDARY FACILITIES FOR HORTICULTURAL MANAGEMENT TRAINING - CONTINUED

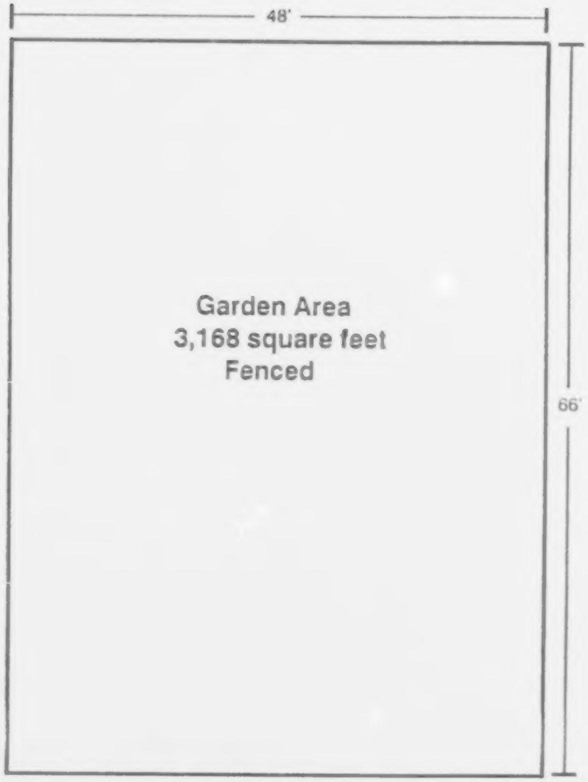
Scale: 1/4" = 3'


20'
20'
50'
30'
33'
Chemical Storage Area
Storage Area
Storage Area
From Classroom
Head-house
Media Box
Demonstration and Potting Area
4' Double Sliding Doors
Cabinet, Sinks, and Shelves
4' Double Sliding Doors
Peninsular Arrangement
4' Double Sliding Doors
Conventional Arrangement
Storage Area

RECOMMENDED SECONDARY FACILITIES FOR HORTICULTURAL MANAGEMENT TRAINING - CONTINUED

Scale: 1/4" = 3'


66'
Nursery Area
4,356 square feet
Under Shade Cloth
66'


48'
Garden Area
3,168 square feet
Fenced
66'

X. LIST OF RECOMMENDED TOOLS AND EQUIPMENT

The following is a list of recommended tools and equipment to be used at the secondary level in the teaching of the skills necessary for a student to succeed in the agricultural 2 + 2 program.

The estimated prices used to determine costs were obtained from tool and equipment supply catalogs and local hardware and lumber companies.

Tools and Equipment

The following hand tool and equipment list specifies the recommended quantities of each tool needed to teach a class of twenty students, and this is the number that a school should purchase when initiating a 2+2 Agricultural Technologies Program for Retail Florist Management.

ITEM	RECOMMENDED QUANTITY	COST PER UNIT	TOTAL COST
Growing benches, includes hanging	Varies with size	.65-.80/ft²	Varies
Work benches for head house	1	$ 517.00	$ 517.00
Potting benches, mobile	1	$ 763.00	$ 763.00
Heating Pads, w/controls	2	$ 219.00	$ 438.00
Carry-all, garden center and greenhouse cart, box 22 1/2" x 40"	2	$ 329.00	$ 658.00
Two wheel dolly	1	$ 19.99	$ 19.99
Walk-in cooler, dimensions 8' x 8' x 7' Temperature range 35-65 degrees F	1		
Satin cloth	Varies with size	.25/ft²	Varies
Shade cloth	Varies with size	.12-.16/ft²	Varies
Fan, jet ventilation system w/controls	1	Varies	Varies
Fan, wall boxes with automatic shutters w/automatic controls	2	$ 158.40	$ 316.80
Mist system, including nozzles and automatic controls	1	$ 595.00	$ 595.00
Grotron Controller	1	$ 179.95	$ 179.95
Pipe distribution system and return for pad system, including pad frames, pump, pads, complete	1	Varies	Varies
Pump, suction, complete (pump, centrifugal or submersible, 1/3-1/2 hp)	Varies with size	$ 92.28	Varies
Water tank - 50 gal	Varies with size	$ 49.95	Varies

ITEM	RECOMMENDED QUANTITY	COST PER UNIT	TOTAL COST
Fertilizer injector	2	$ 85.10	$ 170.20
Hozon fertilizer	12	$ 59.95	$ 719.40
Water hose, 5/8" x 50'	4	$ 14.95	$ 59.80
Heaters, gas-fired, force draft w/deflector kits and automatic controls	Varies with size	Varies	Varies
Thermometer, maximum-minimum	6	$ 20.85	$ 125.10
Refrigerator, household type, 6-8' capacity	1	$ 250.00	$ 250.00
Soil sterilizer, 1/2 yd. capacity	1	$ 849.00	$ 849.00
Program timer, for mist and photo control	4	$ 52.50	$ 210.00
Auger bits, 1/4" to 1" by 16ths (set)	1	$ 93.20	$ 93.20
Miter box, 4" x 24", w/11 pt. saw	1	$ 66.88	$ 66.88
Bit braces, reversible ratchet, 10" sweep	2	$ 73.65	$ 147.30
Water breakers, assorted w/handles	12	$ 7.48	$ 89.76
Cold chisels, set, 1/4", 1/2", 3/4"	2	$ 33.63	$ 67.26
Wood chisels, set, 1/4", 1/2", 3/4"	2	$ 32.23	$ 64.46
Gasoline containers, safety, 5 gal. capacity w/funnel	1	$ 43.55	$ 43.55
Oil can spout	2	$ 10.10	$ 20.20
Extension cord, 100' with GFCI	2	$ 74.40	$ 148.80
Can cutter shears	2	$ 6.90	$ 13.80
Graduated cylinders, glass liquid measurement, 8 oz. capacity w/1/8 oz. increments	6	$ 15.20	$ 91.20
Architect scale	20	$ 13.95	$ 279.00

ITEM	RECOMMENDED QUANTITY	COST PER UNIT	TOTAL COST
Drafting board	20	$ 64.00	$ 1280.00
Mechanical drawing set	20	$ 30.60	$ 612.00
Triangle, 30 - 60 degrees	20	$ 3.45	$ 69.00
Triangle, 45 - 90 degrees	20	$ 4.25	$ 85.00
T-square	20	$ 17.95	$ 359.00
Twist drills, high speed, straight shank, 1/16" to 1/2" by 64ths (set)	1	$ 24.99	$ 24.99
Duster, manual operated	1	$ 142.14	$ 142.14
Edger, gas, 3 1/2 to 4 hp	1	$ 259.88	$ 259.88
Flat file, 10"	1	$ 5.39	$ 5.39
Flat file, 12"	1	$ 7.38	$ 7.38
Half-round file, 10"	1	$ 8.39	$ 8.39
Half-round file, 12"	1	$ 9.59	$ 9.59
Mill file, 10"	2	$ 4.39	$ 8.78
Rattail file, 10"	2	$ 7.89	$ 15.78
Electric fogger, 360 degrees oscillator	1	$ 995.00	$ 995.00
Safety goggles	25	$ 6.89	$ 172.25
Bench grinder, 1/2 hp electric motor w/7" wheels	1	$ 120.80	$ 120.80
Ball pein hammer, 8 oz.	2	$ 9.49	$ 18.98
Nail hammer, bell faced, curved claw,16 oz	6	$ 19.06	$ 114.36
Sledge hammer, 8 lb.	2	$ 13.77	$ 27.54
Hot water heater, electric or gas, 30 gal.	1	$ 642.53	$ 642.53

ITEM	RECOMMENDED QUANTITY	COST PER UNIT	TOTAL COST
Salamander, for emergency heating	1	$ 2010.00	$ 2010.00
Garden hoes	8	$ 12.84	$ 102.72
Mattock hoes	2	$ 17.99	$ 35.98
First aid kits	1	$ 24.95	$ 24.95
Emergency eye-wash station	1	$ 130.00	$ 130.00
Soluble salt testing kit, soil and water	1	$ 27.00	$ 27.00
Complete soil testing kit	1	$ 727.00	$ 727.00
Budding and grafting knives	20	$ 14.95	$ 299.00
Extension ladder, 30'	1	$ 249.99	$ 249.99
Steo ladder, wood 8' or 12'	1	$ 70.50	$ 70.50
Rotary lawnmower,20", 3 1/2 to 4 hp	2	$ 227.62	$ 455.24
Farm level set (tripod, target, and rod)	1	$ 533.00	$ 533.00
Gas mask w/face mask	2	$	
Light meter	1	$ 65.00	$ 65.00
Moisture meter	1	$ 38.25	$ 38.25
pH meter	1	Included in the soil test kit	
Concrete mixer, 3-4 ft^3 capacity, w/1/2 hp electric motor or gasoline	1	$ 1492.50	$ 1492.50
Combination pliers, slip joint, 8"	2	$ 8.49	$ 16.98
End Cutting pliers, 6"	1	$ 13.99	$ 13.99
Lineman's pliers, 8"	1	$ 15.27	$ 15.27
Tomato pollinator, vibrator type, electric motor or battery powered	1	$ 119.95	$ 119.95

ITEM	RECOMMENDED QUANTITY	COST PER UNIT	TOTAL COST
Soil sampler probe	4	$ 77.00	$ 308.00
Garden rakes, assorted	4	$ 14.49	$ 57.96
Wood rasp, 10" half-round	2	$ 7.99	$ 7.99
Wood rules, zig-zag, 6"	6	$ 15.30	$ 91.80
Bow saw, tubular steel frame, tapered point, 21" blade	2	$ 15.30	$ 30.60
Hack saw, adjustable, 10" to 12" frame	1	$ 7.49	$ 7.49
Hand saw, crosscut, 8 point	4	$ 14.16	$ 56.64
Hand saw, rip, 5 1/2 point	1	$ 14.16	$ 14.16
Pole saw	2	$ 41.94	$ 83.88
Pruning saw	2	$ 16.95	$ 33.90
Utility scales, 25 lb. capacity minimum, 2 oz graduation	1	$ 160.00	$ 160.00
Assorted screwdrivers	12	$ 5.80	$ 69.60
Vibrator seeder	8	$ 19.75	$ 158.00
Pruning shears, hand	6	$ 6.99	$ 41.94
Pruning shears, hedge	4	$ 10.99	$ 43.96
Pruning shears, lopping	2	$ 14.99	$ 29.98
"D" handle shovel	2	$ 10.95	$ 21.90
Round point shovel	4	$ 9.95	$ 39.80
Grain scoop	1	$ 27.24	$ 27.24
Sharp shooter	4	$ 16.11	$ 64.44
Soil shredder, w/ electric motor, 2 hp. or gasoline motor	1	$ 1524.91	$ 1524.91

ITEM	RECOMMENDED QUANTITY	COST PER UNIT	TOTAL COST
Sink, 20 gal capacity, smooth non-porous polystone or similar materials, 1 1/2" drain, dimensions 22 3/4" x 21 1/2" x 31 3/4 "	1	$ 39.95	$ 39.95
Sprayer for water hose, quart size	1	$ 9.95	$ 9.95
Sprayer, 3 gallon capacity, stainless steel	1	$ 32.66	$ 32.66
Sprayer, 30 gal capacity, fiberglass or coated-on epoxy lined tank, 3 1/2 hp piston type, 18" brass spray gun, 25' high pressure hose, assorted orifice discs, wheel barrow mounted and semi-pneumatic tires	1	$ 649.00	$ 649.00
Lawn sprinkler	2	$ 16.49	$ 16.49
Water system sprinkler, overhead impulse, portable	1	$ 279.95	$ 279.95
Combination oil stone	1	$ 10.95	$ 10.95
Carpenter's square, w/roofing table	2	$ 12.00	$ 24.00
Combination try and miter square, 9" protractor head and 1 centering head	2	$ 74.40	$ 74.40
Spray suit	3	$ 41.45	$ 124.35
Rubber boots (pairs)	4	$ 16.99	$ 67.96
Steel tape, 10'	1	$ 7.37	$ 7.37
Steel tape, 100'	1	$ 14.37	$ 14.37
Soil thermometer, w/8" probe	1	$ 28.10	$ 28.10
Atmosphere thermometer (greenhouse)	1	$ 4.99	$ 4.99
Rotary tiller, 18" width and 12" depth	1	$ 448.71	$ 448.71
Garden trowels, assorted	6	$ 2.50	$ 15.00
Mechanic's vise, solid base, w/3 1/2" jaws	1	$ 125.11	$ 125.11

ITEM	RECOMMENDED QUANTITY	COST PER UNIT	TOTAL COST
Weedeater, electric or gas, heavy duty	1	$ 99.88	$ 99.88
Wheel barrow, pneumatic tire, 6 ft^3	4	$ 105.90	$ 423.60
Adjustable wrenches, set, 6",8",10"	1	$ 36.62	$ 36.62
Combination wrenches, set, 3/8",7/16", 1/2",and 9/16"	1	$ 27.10	$ 27.10
Pipe wrenches, set 10" and 12"	4	$ 36.94	$ 147.76
Setscrew wrenches, short arm set	2	$ 2.60	$ 5.20
Setscrew wrenches, long arm set	2	$ 2.60	$ 5.20
Drill, electric, or cordless, 3/8" variable speed, reversible	1	$ 114.24	$ 114.24
Plumbing Package	1	Varies	Varies
Automatic watering system	1	$ 989.00	$ 989.00
Watering can w/rose head and spout extension	6	$ 21.18	$ 127.08

SUPPLIES AND EQUIPMENT THAT MAY BE NEEDED FOR TEACHING THE 2+2 AGRISCIENCE TECHNOLOGY PROGRAM IN RETAIL FLORIST MANAGEMENT

In addition to the tools and equipment previously listed, the supplies and equipment listed below are necessary to develop skills and competencies needed by students.

Rubber Aprons (For application of chemicals)
Clay pot Containers
Flats, wood and/or plastic
Peat pots, assorted
Plastic pots, assorted
Metal pots, assorted
Fertilizer
Fungicides
Insecticides
Rubber Gloves (For the application of chemicals)
Gravel (Growing media)
Peat Moss
Propagating media (organic and inorganic)
Sand
Growth hormones
Pot labels 4-12"
Tree and Shrub Labels
Ornamental plants
Nursery plants
Seeds
Bulbs
Root Stocks
Garden Stakes, 12"-24"
Various Horticultural Catalogs and Magazines

Visual Aids Equipment:

16mm movie projector
35 mm film strip - slide projector
Nonreflective screen for overhead projector
Reflective screen for movie projector
35mm camera
Video tape equipment - recording and playing
Computers (8)
Overhead projector
Video camcorder

XI. COMPETENCY PROFILE

The following competency profile will be completed at the secondary level for those competencies achieved by the student during grades 11 - 12.

The profile will then be sent to the postsecondary institution where it will be updated as the student progresses.

Upon graduation from the postsecondary institution, a copy of the profile will have the college seal affixed, and will be provided to the student for presentation to a proposed employer.

COMPETENCY PROFILE

Secondary School ______________________ Postsecondary School ______________________

Agriculture 2+2 Program Area - Retail Florist Management Career Goal ______________________

Name ______________________ Social Security Number ______________ Age ______

Address ______________________________________ Date of Birth ______________

Phone Number ______________________ Sex ________ Racial/Ethnic Designation ______________

Parent's Name ______________________________________ Phone Number ______________

Secondary Agriculture Courses Completed

Name of Course	Date Completed Month	 Day	 Year
AGSC 101 Introduction to World Agricultural Science and Technology			
AGSC 102 Applied Agricultural Science and Technology			
AGSC 221 Introduction to Agricultural Mechanics			
AGSC 261 Introduction to Horticultural Sciences			
AGSC 311 Agribusiness Management and Marketing			
AGSC 312 Personal Skill Development in Agriculture			
AGSC 361 Landscape Design, Construction, and Maintenance			
AGSC 362 Horticultural Plant Production			
AGSC 461 Horticulture Pre-Employment Laboratory			
AGSC 363 Floral Design and Interior Landscape Development			
AGSC 364 Fruit, Nut, and Vegetable Production (Optional)			

Postsecondary Agriculture Courses Completed

Name Of Course	Date Completed Month	 Day	 Year
AGRI 1101 Introduction to Agriculture			
HORT 1307 Soils and Fertilizers			
HORT 1308 Plant Physiology and Diseases			
HORT 1312 Plant Propagation			
HORT 2302 Pests and Pesticides			
HORT 2315 Plant Identification II - Herbaceous and Exotic Plants			
HORT 2317 Managing Agricultural Businesses			
HORT 2330 Interiorscape Design			
HORT 2333 Selection and Maintenance of Indoor Plants			
HORT 2340 Floral Design and Arrangement			
HORT 2350 Horticulture Cooperative training			
HORT 2402 Pests and Pesticides			

COMMENTS: ____

Directions: Evaluate the student using the rating scale below. Check the appropriate number to indicate the degree of competency. The rating for each of the tasks should reflect job readiness.

Rating Scale:
4 Skilled - can work independently with no supervision
3 Moderately Skilled - can perform job completely with limited supervision
2 Limited Skill - requires instruction and close supervision
1 No Exposure - no experience or knowledge in this area

A. CONTROLLING THE PLANT ENVIRONMENT

4	3	2	1	
				1. Fertilize plants using liquid fertilizer
				2. Water plants
				3. Identify plants, flowers, and foliage
				4. Identify and control pests
				5. Identify and treat plant diseases
				6. Determine quality of floral materials
				7. Remove diseased plants
				8. Control temperature of cold storage unit
				9. Condition plant materials
				10. Attach care cards to plants

B. STORE, SHIP, AND TAKE INVENTORY

4	3	2	1	
				1. Check received merchandise against invoice listings
				2. Keep current inventory of products for sale
				3. Maintain equipment inventory
				4. Store received supplies
				5. Return unusable merchandise
				6. Wrap plants
				7. Store floral and foliage plants in cold storage unit
				8. Care for plants, flowers and foliage
				9. Identify containers used in floral work
				10. Deliver products to customers
				11. Load a delivery van
				12. Route a delivery

C. SERVICING AND MAINTAINING EQUIPMENT AND FACILITIES

4	3	2	1	
				1. Service business vehicle
				2. Clean work and delivery areas
				3. Perform routine maintenance and repairs
				4. Clean storage facility
				5. Clean and sanitize cold storage facility
				6. Arrange cooler display shelves
				7. Arrange Counter Display Shelves
				8. Arrange facilities for seasonal changes
				9. Clean containers for storage
				10. Organize storage areas

D. PERFORMING GENERAL OFFICE WORK

4	3	2	1	
				1. Process telephone calls
				2. File materials
				3. Process mail
				4. Maintain mailing list
				5. Schedule appointments and meetings
				6. Order supplies and equipment
				7. Process incoming orders
				8. Process outgoing deliveries
				9. Process wire orders
				10. Clean work area
				11. Repair minor malfunctions of office equipment

E. DESIGNING ARRANGEMENTS

4	3	2	1	
				1. Identify flowers and foliage used in the floral industry
				2. Identify interior plants used in a floral shop
				3. Identify floral tools and products commonly used
				4. Make bows
				5. Wire flowers using piercing method
				6. Wire flowers using hairpin method
				7. Wire flowers using hook-wire method
				8. Wire flowers using clutch method
				9. Wire flowers using straight-wire method
				10. Dye both dried and live floral products
				11. Prepare designed ribbon using glue and glitter
				12. Design flowers for athletic occasions
				13. Design corsages
				14. Design Boutonnieres
				15. Design hair flowers
				16. Design dish gardens (European)
				17. Dress foliage plants
				18. Design funeral baskets
				19. Design funeral vases
				20. Design funeral wreaths
				21. Design set pieces
				22. Design funeral sprays
				23. Design oval arrangements
				24. Design line arrangements
				25. Design symmetrical arrangements
				26. Design asymmetrical arrangements
				27. Design round arrangements
				28. Design hogarth-shaped arrangements
				29. Design special occasion and novelty arrangements
				30. Design bud vases
				31. Make fruit baskets
				32. Wrap and box flowers and foliage
				33. Design and construct a nosegay bouquet
				34. Design and construct a cascade bouquet
				35. Design and construct a crescent bouquet
				36. Design and construct arm bouquet (presentation)
				37. Design and service wedding arrangements
				38. Design with balloons
				39. Apply basic care to interior plants
				40. Apply basic care to floral arrangements

F. PERFORM SALES DUTIES

4	3	2	1	
				1. Complete sales slip
				2. Compute sales tax
				3. Prepare sales invoice
				4. Deposit daily cash receipts
				5. Suggest care of plants for customers
				6. Determine customer needs
				7. Fill customer orders for merchandise and plants
				8. Display retail products
				9. Set up exterior displays
				10. Set up manufacturer's display
				11. Set up counter and table top displays
				12. Set up displays for salesroom coolers
				13. Provide customers with technical assistance
				14. Recommend plant maintenance procedures
				15. Process telephone orders
				16. Rearrange display room

G. PERFORM SALES-RELATED DUTIES

4	3	2	1	
				1. Design and letter show cards
				2. Package customer purchase
				3. Process cash sales transaction
				4. Process charge card sales transaction
				5. Gift wrap purchases
				6. Label and price products
				7. Update prices on merchandise
				8. Maintain customer file system and accounts
				9. Prepare advertisements

H. MANAGING THE BUSINESS

4	3	2	1	
				1. Maintain business records
				2. Prepare financial statements
				3. Interpret financial statements
				4. Complete the business loan application process
				5. Develop credit plan
				6. Prepare budget
				7. Prepare tax statements
				8. Prepare depreciation schedule
				9. Calculate net worth
				10. Orient new employees
				11. Plan work schedules
				12. Determine labor needs
				13. Train workers using demonstration performance method
				14. Evaluate employee performance
				15. Prepare reports
				16. Develop marketing plan
				17. Maintain inventory records
				18. Select computer software for records and reports
				19. Conduct inventory of merchandise
				20. Conduct periodic inspection of merchandise

I. APPLYING SAFETY PRACTICES

4	3	2	1	
				1. Apply basic emergency first aid techniques
				2. Use fire extinguisher
				3. Administer cardio-pulmonary resusitation (CPR)

XII. STUDENT MONITORING AND FOLLOW-UP

The following student monitoring and follow-up instrument is the one that will be used to monitor and follow the student one year after graduation from the postsecondary institution.

At the present time, the 2 + 2 User's Group is considering adopting an instrument to be used for all 2+2 programs. At the time of this report that has not taken place.

Northeast Texas Community College
Project LONESTAR
Statistical Information Request

What is your **primary** reason for attending Northeast Texas Community College? (please check one)

☐ 1. Get a Job
☐ 2. Improve Skills Needed in Current Job
☐ 3. Get a Better Job
☐ 4. Maintain Licensure
☐ 5. Earn a Certificate
☐ 6. Earn a Two-Year Degree
☐ 7. Earn Credit to Apply to a Four-Year Degree
☐ 8. Personal Enrichment
☐ 9. Other

How long do you plan on being at Northeast Texas Community College? (please check one)

☐ 1. One Semester Only
☐ 2. Two Semesters
☐ 3. One Year
☐ 4. Two Years
☐ 5. Three Years
☐ 6. More Than Three Years

What is your current employment status? (please check one)

☐ 1. Employed Full-time (40 hours or more per week)
☐ 2. Employed Part-time (Less than 40 hours per week)
☐ 3. Employed as a Homemaker
☐ 4. Not Employed, Seeking Work
☐ 5. Not Employed, Not Seeking Work

What is your **previous** college-level academic experience? (please check one)

☐ 1. None
☐ 2. Some Postsecondary Education
☐ 3. Postsecondary Award, Certificate, or Diploma
☐ 4. Associates' Degree
☐ 5. Bachelor's Degree
☐ 6. Master's Degree
☐ 7. Doctoral Degree
☐ 8. First-professional Degree

If you consider yourself to be in any of the following categories, please check one.

☐ 1. Handicapped
☐ 2. Limited English Proficiency
☐ 3. Single Parent/Homemaker
☐ 4. Learning Disability
☐ 5. Culturally Disadvantaged
☐ 6. Academically Disadvantaged
☐ 7. Economically Disadvantaged
☐ 8. Physical Disability
    ☐ Deaf
    ☐ Deaf-Blind
    ☐ Hard of Hearing
    ☐ Orthopedically Impaired
    ☐ Other Health Impaired
    ☐ Speech Impaired
    ☐ Visually Handicapped

How did you receive your schedule of classes? (please check one)

☐ 1. Called NTCC and it was mailed to you.
☐ 2. Came by NTCC and picked it up.
☐ 3. Newspaper insert.
☐ 4. Other________________________________.

Describe the highest level of formal education obtained by your father. (please check one)

☐ 1. Not a high school graduate
☐ 2. High school graduate
☐ 3. Some college or associate's degree
☐ 4. Bachelor's degree or above

Describe the highest level of formal education obtained by your mother (please check one)

☐ 1. Not a high school graduate
☐ 2. High school graduate
☐ 3. Some college or associate's degree
☐ 4. Bachelor's degree or above

TX8-1-F (NRS-DeVAULT)

Term:

Tex-SIS FOLLOW-UP

PROJECT FOLLOW-UP

-1

-44

Please make corrections to the information above if necessary

FOR COLLEGE USE ONLY

Term Date Mo ☐ ☐ Yr ☐ ☐
16 17 20 21

Completion Code ☐
71

Group Code
33-
A ☐ O/T
B ☐ LT
C ☐ OTH
D ☐ VC

Course Type Code
74-
1 ☐ Coop
2 ☐ Non-Coop

Major Code ☐☐☐☐☐☐
34 35 36 37 38 39

Target Pop. Code
1 ☐ REG
2 ☐ DAVT
3 ☐ HNCP
4 ☐ LEP
5 ☐ SP/HOME
6 ☐ SB/STER

Special Code ☐
63

Level Code
76-
2 ☐ Postsecondary
3 ☐ Adult-LT
4 ☐ Adult-ST
5 ☐ OTH

Note: This survey is authorized by Public Laws 20 USC 2312 and 20 USC 2391. While you are not required to respond to this survey, your cooperation is needed to insure that the results of this effort are comprehensive, reliable, and timely.

PLEASE CHECK APPROPRIATE BLOCK(S) WITHIN EACH CATEGORY BELOW.

SECTION A

EVERYONE SHOULD ANSWER THIS SECTION

Do not write in this column

Please respond to the below as appropriate. This information is needed for equal opportunity education and employment reporting.

MAJOR ____________________
(At our college)

SEX
65-
M ☐ Male
F ☐ Female

ETHNIC GROUP
66-
☐ American Indian or Alaskan Native
☐ Asian or Pacific Islander
☐ Black, not of Hispanic Origin
☐ Hispanic
☐ White, not of Hispanic Origin

AGE
67-
B ☐ 16-19
C ☐ 20-24
D ☐ 25-29
E ☐ 30-34
F ☐ 35-44
G ☐ 45-54
H ☐ 55-64
I ☐ 65 and over

1 What was your PRIMARY objective in attending our two-year college?

46-1 ☐ Improvement of existing "job skills"
47-1 ☐ Preparation for "job to be obtained"
48-1 ☐ University transfer credit
49-1 ☐ Personal interest
50-1 ☐ Other (describe) ____________________

2 To what extent has this objective been completed?

51-
1 ☐ Fully completed
2 ☐ Partially completed
3 ☐ Not completed

3 Do you plan to pursue this objective further?

52-
1 ☐ Yes: where? ➧
2 ☐ No

53-1 ☐ At our college
54-1 ☐ At another college
55-1 ☐ Other (describe) ____________________

4 How much education is (or was) required to accomplish your educational objective at our college?

56-1 ☐ Selected course(s)
57-1 ☐ Certificate program
58-1 ☐ Two-year associate degree program
59-1 ☐ Other (describe) ____________________

5 What was your principal reason for NOT re-enrolling at our college this semester?

60-1 ☐ Completed needed courses
61-1 ☐ Transportation problems
62-1 ☐ Transferred to another college
63-1 ☐ Found job in occupation related to course(s) completed at this college
64-1 ☐ Conflicting job hours
65-1 ☐ Financial reasons
66-1 ☐ Change of residence
67-1 ☐ Grade problems
68-1 ☐ Dissatisfied with instruction
69-1 ☐ Dissatisfied with content of courses
70-1 ☐ Personal/family illness or injury
71-1 ☐ Other personal/family reasons
72-1 ☐ Other (describe) ____________________

6 Which statement best describes your feeling about your educational experience at our college?

Do not write in this column

73-
1 ☐ Very satisfied
2 ☐ Satisfied
3 ☐ Average
4 ☐ Disappointed
5 ☐ Very disappointed

7 If you have completed courses in your MAJOR FIELD OF STUDY please rate them according to how well they fulfilled your individual needs. Students with "undecided/undeclared" majors should skip to next question.

		Very Good 1	Good 2	Average 3	Poor 4	Very Poor 5
a. Quality of instruction	74-	☐	☐	☐	☐	☐
b. Grading/Testing	75-	☐	☐	☐	☐	☐
c. Instructor interest	76-	☐	☐	☐	☐	☐
d. Content of course(s)	77-	☐	☐	☐	☐	☐
e. Instructional media	78-	☐	☐	☐	☐	☐
f. Class size	79-	☐	☐	☐	☐	☐

8 If you have used any of the below college services, please rate them according to how well they fulfilled your individual needs.

		Very Good 1	Good 2	Average 3	Poor 4	Very Poor 5
a. Financial aids	34-	☐	☐	☐	☐	☐
b. Counseling	35-	☐	☐	☐	☐	☐
c. Job placement services	36-	☐	☐	☐	☐	☐
d. Course advisement	37-	☐	☐	☐	☐	☐
e. Tutoring services	38-	☐	☐	☐	☐	☐
f. Veterans services	39-	☐	☐	☐	☐	☐
g. Learning lab/packages	40-	☐	☐	☐	☐	☐
h. Student activities	41-	☐	☐	☐	☐	☐
i. Library services	42-	☐	☐	☐	☐	☐

9 Do you currently have a college degree or certificate?

DMA

73-
☐ Yes: what? ➡
☐ No

74-
1 ☐ Certificate
2 ☐ Associate Degree
3 ☐ Bachelor's
4 ☐ Master's
5 ☐ Doctorate
6 ☐ Other ____________________

(Degree or Certificate Field of Study)

____

10 What is your current educational status? (Check one)

43-
1 ☐ Currently attending school
2 ☐ Not currently attending school

11 What is your current employment status? (Check one)

44-
1 ☐ Employed (Includes all employment, even if below your qualifications; does not include full-time military service)
2 ☐ Employed (Full-time military service)
3 ☐ Unemployed (Not employed, but actively seeking employment)
4 ☐ Not in labor force (Not employed and not seeking employment because of choice, illness, full-time student status, retirement, pregnancy, or other such reason)

OVER PLEASE!

BELOW SPACE RESERVED FOR COMMENTS

BEST COPY AVAILABLE

MAJOR

CODE ☐☐☐☐☐☐

SECTION B

IF YOU ARE CURRENTLY EMPLOYED, OR IN FULL-TIME MILITARY SERVICE, PLEASE ANSWER THIS SECTION. OTHERWISE, SKIP TO SECTION C.

Do not write in this column.

1 Please provide the following information on your present job.

Name of Company or Firm (If self-employed, please write self.)

Company or Firm Mailing Address

City State (57) Zip Code

Your Job Title

Your Job Duties

SIC 45 ☐ 46 ☐ 47 ☐

EJT 48 ☐ 49 ☐ 50 ☐ 51 ☐ 52 ☐ ☐ ☐ ☐ ☐

2 Is this job related to the courses you have completed at our college?

62-
1 ☐ Yes, it is directly or closely related
2 ☐ No, it is only remotely related or is not related at all

3 What is your current salary (gross)? (Do not add in overtime.) This information, when combined with others in your field of study, will provide valuable information to other individuals in their own career planning.

(Check one)

$ ________ • ________ PER (70) 1 ☐ HOUR 2 ☐ WEEK 3 ☐ MONTH 4 ☐ YEAR
(63)

4 The salary in the preceding item is based on how many hours per week employment?

______ Hours per Week
(71-72)

Dates of Employment

From ________ To ________

SI 63 ☐ 64 ☐ 65 ☐ 66 ☐ 67 ☐ 68 ☐ 69 ☐

5 We periodically conduct surveys of employers to help us evaluate the courses we offer and to advise us on other courses and programs which are needed. If we may contact your immediate supervisor so he or she can have the opportunity to participate in such a survey, please supply the below information.

Supervisor's Last Name First Name M.I.

Supervisor's Job Title

Please provide address if different from your company address

HR 71 ☐ 72 ☐

SJT 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐ ☐ ☐ ☐ ☐

6 Please check below if the course(s) you took at our college helped you in your occupational area in any of the following ways.

43-1 ☐ Helped to obtain job
44-1 ☐ Helped performance on present job
45-1 ☐ Helped advance on present job
46-1 ☐ None of the above
47-1 ☐ Other (describe) ________

7 How would you rate the training you received at our college in relation to its usefulness to you in performing your job?

48-
1 ☐ Very Good
2 ☐ Good
3 ☐ Average
4 ☐ Poor
5 ☐ Very poor

8 Would you recommend the course(s) taken at our college to others employed in positions similar to yours?

49-
1 ☐ No
2 ☐ Undecided
3 ☐ Yes

9 Were you employed in your occupational area PRIOR to enrolling in the course(s) completed at our college?

50-
1 ☐ No
2 ☐ Yes

SECTION C

IF YOU HAVE ENROLLED IN ANOTHER COLLEGE SINCE YOUR ENROLLMENT AT OUR COLLEGE, PLEASE ANSWER THIS SECTION. OTHERWISE, SKIP TO SECTION D.

Do not write in this column.

1 Please provide the below information on your current (or most recently attended) college.

Name of College

City and State

Your Current Major Field of Study

TC 51 ☐ 52 ☐ 53 ☐ 54 ☐ 55 ☐ 56 ☐

2 Did you have problems transferring to the college indicated above?

65-
1 ☐ Yes, what? →
66-1 ☐ Transferring credit hours
67-1 ☐ Transcript problems
68-1 ☐ Admission problems
69-1 ☐ Other (describe) ________
2 ☐ No

TMC 57 ☐ 58 ☐ 59 ☐ 60 ☐ ☐ ☐ ☐ ☐

3 How many credit hours earned at our college were not accepted at the college indicated above?

70-
1 ☐ All credit hours accepted
2 ☐ Lost 1 - 3 credit hours
3 ☐ Lost 4 - 6 credit hours
4 ☐ Lost 7 - 12 credit hours
5 ☐ Lost 13 - 21 credit hours
6 ☐ Lost more than 21 credit hours

4 In your opinion, how well did our college prepare you for continuing your education?

71-
1 ☐ Very good
2 ☐ Good
3 ☐ Average
4 ☐ Poor
5 ☐ Very Poor

5 If you are currently enrolled in college, please indicate your current status and classification at the college indicated above.

STATUS

72-
1 ☐ Part-time student (Less than 12 hours)
2 ☐ Full-time student (12 or more hours)

CLASSIFICATION

73-
1 ☐ Freshman
2 ☐ Sophomore
3 ☐ Junior
4 ☐ Senior
5 ☐ Graduate student

6 How many credit hours earned at our college were successfully transferred to another institution?

______ Credit hours transferred
(74-76)

7 What term and year did you first enroll at your transfer institution?

______ Term ______ Year

TYP 77 ☐ 78 ☐ 79 ☐

SECTION D

ALL STUDENTS SHOULD ANSWER THIS SECTION.

1 Approximately how many credit hours have you completed at our college? Please mark appropriate column.

74-
1 ☐ None
2 ☐ 1 - 10
3 ☐ 11 - 20
4 ☐ 21 - 30
5 ☐ 31 - 40
6 ☐ 41 - 50
7 ☐ 51 - 60
8 ☐ More than 60

2 How do you see the course(s) completed at our college in terms of your career plans:

76-1 ☐ of immediate, direct benefit
77-1 ☐ of long term, direct benefit
78-1 ☐ of indirect benefit
79-1 ☐ of no benefit

3 Are you interested in taking other courses at our college? You may include courses not presently offered by our college.

80-
1 ☐ No
2 ☐ Yes, what course(s)? ________

4 We would appreciate any comments regarding how we could improve the course(s) you have completed and/or services we have provided. Please use the below space (front and back) for your comments.

NRS-DeVAULT

BELOW SPACE RESERVED FOR COMMENTS

(Use reverse side for additional space)

THANK YOU FOR ASSISTING US IN OUR SURVEY! PLEASE RETURN THIS FORM IN THE PRE-PAID ENVELOPE AS SOON AS POSSIBLE!

TX8-4-E (EMP-DeVault) Term:

Tex-SIS FOLLOW-UP

-1

PROJECT FOLLOW-UP

Please make corrections to the information above if necessary.

Note: This survey is authorized by Public Laws 20 USC 2312 and 20 USC 2391. While you are not required to respond to this survey, your cooperation is needed to insure that the results of this effort are comprehensive, reliable, and timely.

-44

FOR COLLEGE USE ONLY

SEX

65- M ☐ Male
F ☐ Female

ETHNIC GROUP

66-
5 ☐ American Indian or Alaskan Native
4 ☐ Asian or Pacific Islander
2 ☐ Black, not of Hispanic Origin
3 ☐ Hispanic
1 ☐ White, not of Hispanic Origin

AGE

67-
B ☐ 16-19
C ☐ 20-24
D ☐ 25-29
E ☐ 30-34
F ☐ 35-44
G ☐ 45-54
H ☐ 55-64
I ☐ 65 and over

Term Date
Mo ☐ ☐ Yr ☐ ☐
16 17 20 21

Completion Code 73 ☐

Course Type Code
74- 1 ☐ Coop
2 ☐ Non-Coop

Group Code
33-
A ☐ O/T
B ☐ UT
C ☐ OTH
D ☐ VC

Target Pop. Code
1 ☐ REG
2 ☐ DAVT
3 ☐ HNCP
4 ☐ LEP
5 ☐ SP/HOME
6 ☐ SB/STER

Major Code
34 35 36 37 38 39

Level Code
76-
2 ☐ Postsecondary
3 ☐ Adult - LT
4 ☐ Adult - ST
5 ☐ OTH

EMP Code ☐ 62

Special Code ☐ 63

IDENTIFICATION ______________________________

☐ ☐ ☐ ☐ ☐ EJT
46 47 48 49 50

JOB TITLE ______________________________

☐ ☐ ☐ ☐

PROGRAM MAJOR ______________________________

☐ ☐ ☐ SIC
55 56 57

____
EMPLOYER (COMPANY NAME - INSTITUTION - ORGANIZATION, ETC.)

1 **Is the job title and status of this individual accurate?**

58- 1 ☐ Yes
2 ☐ No: IF NO, please describe change(s) below.

____
____

2 **What is your relationship with this individual?**

59-1 ☐ Employer
60-1 ☐ Supervisor
61-1 ☐ Personnel staff
62-1 ☐ Co-worker
63-1 ☐ Other (describe) ______________________________
____

OVER PLEASE!

3

Please rate the training received by this individual in the following personal skill areas. Please respond only to those areas you feel are appropriate.

Do not write in this column.

		Very Good 1	Good 2	Average 3	Poor 4	Very Poor 5
a. Accepting responsibility	64-	☐	☐	☐	☐	☐
b. Punctuality	65-	☐	☐	☐	☐	☐
c. Personal initiative	66-	☐	☐	☐	☐	☐
d. Willingness to learn	67-	☐	☐	☐	☐	☐
e. Co-worker cooperation	68-	☐	☐	☐	☐	☐
f. Management cooperation	69-	☐	☐	☐	☐	☐
g. Work attendance	70-	☐	☐	☐	☐	☐
h. Work attitude	71-	☐	☐	☐	☐	☐
i. Personal appearance	72-	☐	☐	☐	☐	☐
j. Compliance with policies	73-	☐	☐	☐	☐	☐

4

Please rate the training received by this individual in the following technical skill areas. Please respond only to those areas you feel are applicable to the occupational area.

		Very Good 1	Good 2	Average 3	Poor 4	Very Poor 5
a. Mathematical skills	34-	☐	☐	☐	☐	☐
b. Technical knowledge	35-	☐	☐	☐	☐	☐
c. Organizational ability	36-	☐	☐	☐	☐	☐
d. Communication skills	37-	☐	☐	☐	☐	☐
e. Problem solving skills	38-	☐	☐	☐	☐	☐
f. Work quality	39-	☐	☐	☐	☐	☐
g. Work quantity	40-	☐	☐	☐	☐	☐
h. Manual dexterity	41-	☐	☐	☐	☐	☐
i. Meeting the public	42-	☐	☐	☐	☐	☐
j. Following instructions	43-	☐	☐	☐	☐	☐
k. Operation of equipment	44-	☐	☐	☐	☐	☐

5

What is your overall rating of the training received by this individual as it relates to the requirements of his or her job?

1 ☐ Very good
2 ☐ Good
45— 3 ☐ Average
4 ☐ Poor
5 ☐ Very poor

6

What, in your opinion, is the job outlook for program employees of this particular occupational field?

Do not write in this column

Present		Future
1 ☐	Very good	1 ☐
2 ☐	Good	2 ☐
46— 3 ☐	Average	47— 3 ☐
4 ☐	Poor	4 ☐
5 ☐	Very poor	5 ☐

7

As a result of this person's training, how would you rate his or her preparation in relation to other employees in his or her working group who did not receive such training?

1 ☐ No basis for comparison
48— 2 ☐ Individual is better prepared
3 ☐ Both are about the same
4 ☐ Individual is less prepared

8

To what extent, if any, has this individual's training added to his or her ability for job placement and advancement?

1 ☐ Very much
2 ☐ Much
49— 3 ☐ Average
4 ☐ Very little
5 ☐ None

9

What was the primary source(s) for the initial hiring of this individual?

50-1 ☐ Employment agency
51-1 ☐ College faculty member
52-1 ☐ College job placement office
53-1 ☐ Mutual acquaintance
54-1 ☐ Applicant applied on own initiative
55-1 ☐ Other (describe) ____________________

____

____

A

What suggestions do you have for improving the technical and/or personal skills of future employees?

B

What, in your opinion, are additional areas of training (job titles, skills, etc.) in which our school should become involved?

EMP-DeVAULT

THANK YOU FOR ASSISTING US IN OUR SURVEY! PLEASE RETURN THIS FORM IN THE PRE-PAID ENVELOPE AS SOON AS POSSIBLE!

XIII. CAREER LADDER INFORMATION

The following is a career ladder for a student who is interested in pursuing a career in the area of retail florist management. The 2+2 program provides for exit points at different levels with the job benefits and type of skills performed appropriate with the level of education attained. These jobs are only entry level jobs with promotion and benefit increases possible.

EXIT LEVEL	**JOB TITLE**
Postsecondary (Grade 16) **Baccalaureate Degree**	Floral Shop Manager Sales/Design Representative
Postsecondary (Grade 14)	Floral Shop Assistant Manager Floral Designer
Secondary (Grade 12)	Horticultural Worker Plant Maintenance Technician

The careers in the horticultural industry are not limited to those listed on the previous page.

The following is only a partial list of career opportunities in the horticultural/plant science areas.

Composter or Plant Recycler

Landscape Material Installation Supervisor

Landscape Gardener

Nursery Employee

Horticultural Maintenance Supervisor

Greenhouse Employee

Installation Supervisor/Installation Manager

Operations Manager/General Manager

Sales/Design Representative

Sales Manager/Director of Marketing and Design

Quality Control Technician

Technician Supervisor/Maintanance Manager

Plant Breeder

Plant Geneticist

XIV. RECOMMENDED TEACHER APPROVAL CRITERIA

The following is the recommended teacher approval criteria for a secondary agriscience teacher training students for the 2+2 Retail Florist Management Program.

TEACHER APPROVAL CRITERIA

Secondary teachers who plan to initiate a 2+2 Agricultural Program in the area of Retail Florist Management or Garden Center Management should have the following qualifications:

1. The teacher should have a valid Texas Teacher Certificate with Agricultural Science and Technology certification.
2. The teacher should have the Horticultural Certification for Texas horticulture teachers.
3. The teacher should have attended floral design and other horticultural workshops as approved by the Texas Education Agency.
4. It is not necessary but is recommended that the teacher have taught within the last three years at the time of implementation of the 2+2 program or be a recent graduate (within the past 12 months) of an approved agricultural education program from a Texas college or university.

XV. ARTICULATION AGREEMENT

The following is an example articulation agreement to be signed by the secondary and postsecondary institutions who are interested in providing the agriculture 2+2 curriculum for their students.

AGRICULTURAL OCCUPATIONS 2+2 PROGRAM

ARTICULATION AGREEMENT

PURPOSE

1. To eliminate duplication of effort between area secondary and postsecondary educational institutions in the delivery of agriscience courses.

2. To optimize student enrichment by providing coordinated curriculum to insure a continuous learning path, beginning at the secondary level and continuing to the postsecondary level.

3. To assure that students are adequately equipped with the necessary academic and vocational skills to gain and hold employment upon graduation from both secondary and postsecondary levels.

AGREEMENT

1. Secondary institutions which are a party to this agreement hereby agree to:

   a. Evaluate and recruit students who have, in their opinion, necessary qualifications to successfully complete the Agricultural Occupations 2+2 Articulated Program.

   b. Offer and maintain for the duration of this agreement the agriscience courses designated as a part of the Agriculture 2+2 Articulated Program or a series of courses containing the same competencies.

   c. Maintain necessary records to track and evaluate individual student's progress of required agriscience competencies as contained in the Agricultural Occupations 2+2 Articulated Program. Such records will be forwarded to the postsecondary institution upon request.

2. The postsecondary institutions which are a part of this agreement hereby agree to:

   a. Assist secondary institutions which are a party to this agreement in evaluating and recruiting students.

   b. Offer and maintain for the duration of this agreement Applied and Associate Degree curriculum and resources as specified in the Agricultural Occupations 2+2 Articulated Program. No student will be allowed to enter the associate degree program without having first successfully completed the competencies required in the secondary portion of the Agricultural Occupations 2+2 Articulated Program.

AGRICULTURAL OCCUPATIONS 2+2 PROGRAM

ARTICULATION AGREEMENT
Continued

c. Provide an adequately trained faculty to administer and teach the Agricultural Occupations Applied and Associate Degree curriculum.

d. Provide assessment of students upon entry to the postsecondary institution(students must score 80% or greater on materials covered in secondary program) and counsel students regarding the Applied vs the Associate Degree Programs.

e. Continue student records provided by secondary institutions; maintain adequate records during applied or associate degree program; and track student progress through at least one year of employment and provide to employers upon request.

REVIEW AND CHANGE PROCESS

At the end of one year from the date of this agreement, a review of the Articulation Agreement of the Agricultural Occupations 2+2 Articulated Program will be conducted. All superintendents, principals, counselors, vocational administrators, instructors from secondary schools, administrators and instructors from postsecondary schools, and industry representatives will be invited to provide input for review and revision.

PROVISION FOR IMPLEMENTATION/TERMINATION

This agreement will become effective upon approval by the President of ____________________ College and the Superintendent of ____________________ Independent School District. Upon implementation, this agreement will continue on an annual basis until one of the parties petitions the other party to end the agreement.

Such petition to end the agreement (1) must be submitted one year in advance of the intent to terminate; (2) must be submitted in writing signed by the college president or school superintendent making the petition; and (3) must be delivered to the second party of the agreement. Delivery of the intent to terminate will constitute formal notification and will serve as grounds for termination one year following the date of delivery.

____________________ President	____________________ Superintendent
____________________ College	____________________ ISD
____________________ 1990	____________________ 1990